

Final Rule Change Report:
Administrative Improvements to the Outage
Process (RC_2014_03)

Standard Rule Change Process

26 February 2021

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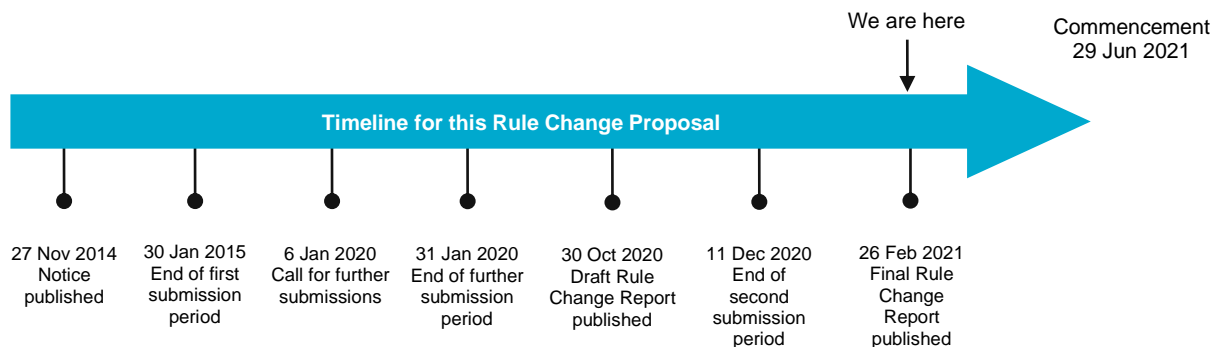
1. Rule Change Proposal, Process and Timeline

On 27 November 2014, the Independent Market Operator (**IMO**) submitted a Rule Change Proposal titled “Administrative Improvements to the Outage Process” (RC_2014_03). The Rule Change Proposal sought to implement changes to:

- increase the efficiency of processes used to report and manage Forced Outages and Consequential Outages in the Wholesale Electricity Market (**WEM**); and
- clarify the processes relating to the determination and use of outage quantities for Scheduled Generators and Non-Scheduled Generators.

The Rule Change Proposal is being processed using the Standard Rule Change Process, described in section 2.7 of the WEM Rules. The timeframes for the first submission period and the preparation of the Draft Rule Change Report were extended by the IMO under clause 2.5.10; and the timeframes for the preparation of the Draft Rule Change Report, the second submission period and the preparation of the Final Rule Change Report were further extended by the Rule Change Panel under clauses 1.18.3(b) and 2.5.10. Details of the extensions are available on the Rule Change Panel’s website at https://www.erawa.com.au/rule-change-panel/market-rule-changes/rule-change-rc_2014_03.

The key dates for progressing this Rule Change Proposal, as amended in the extension notices, are:



This Final Rule Change Report is drafted on the basis that the reader has read all the related documents, including the Rule Change Proposal, the first period submissions, the call for further submissions (**CFFS**) that was published on 6 January 2020, the submissions received in response to the CFFS (**further submissions**), the Draft Rule Change Report and the second period submissions. All documents related to this Rule Change Proposal can be found on the Rule Change Panel’s website.

2. The Rule Change Panel’s Decision

The Rule Change Panel’s final decision is to accept the Rule Change Proposal in a modified form. The Amending Rules are specified in section 8 of this report.

The Rule Change Panel’s final decision differs from its draft decision due to consideration of issues raised in second period submissions and recent statements by AEMO relating to the

implementation of the Energy Transformation Strategy (**ETS**). The largest changes are that that the Rule Change Panel has decided not to progress:

- the proposed network outage transparency improvements, including the Triggering Outage Notice mechanism and the support for ex-ante Consequential Outage requests;
- the proposed changes to support the reporting of outage quantities for Scheduled Generators and Non-Scheduled Generators on a temperature-independent basis; and
- the proposed changes to remove constrained off compensation for Scheduled Generators that experience a Forced Outage or Consequential Outage in the relevant Trading Interval.

2.1 Reason for the Rule Change Panel's Decision

The Rule Change Panel has made its final decision on the basis that the Amending Rules:

- will reduce administrative burden and compliance risks and costs for Rule Participants by removing unnecessary obligations;
- will prevent unwarranted reductions of Capacity Credits due to the impact of a network outage on Reserve Capacity Test results;
- will support the provision of more timely information to AEMO about Forced Outages that Rule Participants know are about to occur;
- will clarify the basis for reporting quantities of de-rating for Scheduled Generator Outages;
- will address manifest errors affecting the calculation of capacity-adjusted outage quantities¹, while still allowing for appropriate outcomes for Outages that occur on high-temperature days;
- will improve clarity around the calculation and use of outage quantities under the WEM Rules;
- will ensure that distribution-connected generators are eligible for Consequential Outages;
- will support the effectiveness of AEMO's prudential monitoring by allowing AEMO to set tighter reporting deadlines for Forced Outages of a specific generator if a Forced Outage could have a material impact on the Market Generator's Trading Margin;
- have a low estimated implementation cost and an implementation timeframe that will allow net benefits to be realised over the remaining period before the expected implementation of the new market arrangements in October 2022;
- will allow the WEM Rules to better achieve Wholesale Market Objectives (a), (b) and (c);
- are consistent with Wholesale Market Objectives (d) and (e);
- were generally supported by the majority of Market Advisory Committee (**MAC**) members and observers at various MAC meetings and the MAC workshops held on 17 January 2018 and 25 October 2019 to discuss the Rule Change Proposal; and

¹ In this report, a 'capacity-adjusted outage quantity' is an outage quantity for a Scheduled Generator that is adjusted to exclude capacity that is not assigned Capacity Credits. Capacity-adjusted outage quantities are used for several purposes in the WEM Rules, including the calculation of Capacity Cost Refunds.

- were generally supported (subject to some concerns regarding the proposed approach for determining outage quantities for Scheduled Generators that fail to comply with instructions² and a more general concern about avoiding unwarranted implementation costs) by the submissions received in response to the Rule Change Panel's CFFS on this Rule Change Proposal.

Additional detail outlining the analysis behind the Rule Change Panel's decision is provided in section 7 of this report.

2.2 Commencement

The Amending Rules will commence at **8:00 AM on 29 June 2021**.

² For further details please see section 6.3.3.4 of the Draft Rule Change Report.

3. Proposed Amendments

3.1 The Rule Change Proposal

In this Rule Change Proposal, the IMO sought to:

- remove the requirement for a Market Participant to provide a notice signed by an Authorised Officer (**authorised notice**) to seek approval for a Consequential Outage;
- introduce the ability for Rule Participants to log a Forced Outage or Consequential Outage in advance of the outage occurring;
- amend clause 3.21.6 to make the calculation rules for capacity-adjusted outage quantities consistent with current practice, including:
 - using the MW equivalent of the Capacity Credits assigned to a Scheduled Generator instead of its Reserve Capacity Obligation Quantity (**RCOQ**) in the calculations; and
 - requiring Market Generators to enter outage quantities into the System Management Market Information Technology System (**SMMITS**) on an as generated basis instead of a sent out basis;
- restrict the application of clause 3.21.6 to Scheduled Generators, and amend clause 3.21.5 to clarify how outage quantities should be calculated for Non-Scheduled Generators;
- require System Management³ to provide the IMO with outage quantities for each Scheduled Generator and Non-Scheduled Generator for each Trading Interval on a sent out basis at 15 degrees,⁴ in addition to the temperature-adjusted values provided for Scheduled Generators;
- clarify that the obligation for Rule Participants to provide “full and final details” of an Outage “no later than 15 calendar days following the Trading Day” applies separately to each Trading Day of the outage period; and
- make several minor grammatical and formatting amendments to improve the integrity of the WEM Rules.

The proposed amendments are discussed in detail in section 6.3 of the Draft Rule Change Report. Full details of the Rule Change Proposal are available on the Rule Change Panel’s website.

3.2 Changes to the WEM Rules Affecting the Rule Change Proposal

Since the formal submission of this Rule Change Proposal:

- the WEM Rules have changed significantly;
- the market operator function has transferred from the IMO to AEMO; and
- the system management function has transferred from Western Power to AEMO.

The Rule Change Panel has therefore applied the proposed changes to the WEM Rules as expected at the time of commencement (29 June 2021), accounting where applicable for the

³ References to System Management in this report mean System Management in its form as a ring-fenced entity within Western Power. Any comments made by System Management after the system management function was transferred to AEMO are attributed to AEMO.

⁴ Note that all temperature references in this report are specified in degrees Celsius.

changes made to the WEM Rules since the submission of the Rule Change Proposal. A summary of the required changes to the original Rule Change Proposal drafting was provided in Appendix A of the Draft Rule Change Report. The revised drafting was used as the base for the further changes to the proposed Amending Rules presented in the Draft Rule Change Report.

The Rule Change Panel notes that the rationale for the proposed changes is, in most cases, unaffected by changes made to the WEM Rules since the submission of this Rule Change Proposal and the transfer of functions to AEMO.

3.3 The IMO's Initial Assessment of the Proposal

The IMO decided to proceed with the Rule Change Proposal on the basis that section 4 of the Rule Change Proposal indicated that the proposed amendments would better achieve the Wholesale Market Objectives. In particular, the proposed streamlining of the Consequential Outage process and the clarification of the obligations of the parties involved in the outage process were expected to allow the WEM Rules to better achieve Wholesale Market Objectives (a) and (d).

On this basis, the IMO considered that Rule Participants should be given an opportunity to provide submissions on the Rule Change Proposal.

4. Consultation

Although the Rule Change Panel has summarised the submissions received in the first, second and further submission periods and the views expressed by the MAC in accordance with clause 2.7.7 of the WEM Rules, the Rule Change Panel has reviewed this information in its entirety and taken into account each matter raised by stakeholders and the MAC in making its decision on this Rule Change Proposal.

Full details of the MAC meetings discussed in this section, including meeting papers, presentations and minutes, are available on the Rule Change Panel's website at <https://www.erawa.com.au/rule-change-panel/market-advisory-committee/market-advisory-committee-meetings>.

4.1 Consultation before the Publication of the Draft Rule Change Report

A summary of the consultation undertaken by the IMO and the Rule Change Panel in respect of this Rule Change Proposal before the publication of the Draft Rule Change Report is provided in section 5 of the Draft Rule Change Report. The summary covers:

- MAC consultation by the IMO before the formal submission of the Rule Change Proposal;
- the submissions received during the first submission period and the Rule Change Panel's response to those submissions;
- MAC consultation between the end of the first submission period and the publication of the CFFS on 6 January 2020;
- the further submissions received in response to the CFFS and the Rule Change Panel's response to those submissions; and
- consultation following the close of the further submission period.

4.2 Submissions Received on the Draft Rule Change Report

The second submission period for this Rule Change Proposal was held between 30 October 2020 and 11 December 2020. The Rule Change Panel received submissions from AEMO and Synergy during the second submission period, and an out of session submission from the Australian Energy Council (**AEC**) on 2 February 2021.

AEMO's submission reiterated its concerns that the benefits of the rule change did not outweigh the costs imposed on Market Participants, given the expected short lifespan for the required IT system changes. AEMO also suggested that the industry's resources would be better placed focusing on implementing the rule requirements developed under the ETS – Delivering the Future Power System reforms (**WEM Reform**), considering the associated time constraints.

AEMO indicated that the proposed changes would have negative implications on AEMO's capacity to pursue the WEM Reform objectives because it would direct resources away from the WEM Reform program.

AEMO also:

- raised a concern with the proposed transitional provisions, based on AEMO's interpretation of the defined terms Outage Plan, Scheduled Outage and Planned Outage; and
- responded to several comments made by the Rule Change Panel in the Draft Rule Change Report regarding AEMO's cost and time estimates.

In its submission, Synergy expressed support for the intent of the Rule Change Proposal and agreed the amendments that add regulatory clarity to Market Participants should be implemented.⁵

However, Synergy strongly opposed the implementation of the proposed Triggering Outage Notice mechanism and outage quantity determination changes. Synergy advised that these changes were likely to have material implications on Synergy's systems, compliance resourcing and internal processes, with estimated system implementation costs of approximately \$250,000-\$350,000 (not including a contingency allowance).

Additionally, Synergy indicated that the resources required to implement these changes were the same as those currently working on Synergy's WEM Market Readiness (**WEMMR**) program, which was designed to prepare Synergy for the new market commencing on 1 October 2022. Synergy considered that implementing the changes would create an unnecessary disruption to its WEMMR activities and could even jeopardise Synergy's ability to complete its WEMMR program on time.

Synergy did not consider that the benefits of the proposed changes over their expected lifespan warranted the high estimated implementation costs for AEMO and Market Participants and the risks to delivery of critical changes required for the WEM Reform program. Synergy specifically questioned the benefit of the proposed Triggering Outage Notice mechanism on the basis that it would only address a small component of the current market transparency issues relating to Market Participant visibility of Network Planned Outages.

In its out of session submission, the AEC reiterated Synergy's concerns about the net benefits of the proposed amendments over their expected lifespan and the diversion of Market Participant resources away from preparing for the new market, and requested that the Rule Change Proposal be discontinued.

Alinta Energy (**Alinta**) did not provide a formal submission. However, Alinta subsequently advised RCP Support that it had reviewed, and was broadly supportive of, the proposed rule changes in the Draft Rule Change Report.

The assessment by submitting parties as to whether the Rule Change Proposal would better achieve the Wholesale Market Objectives is summarised below.

⁵ Synergy indicated, for example, that it was strongly supportive of the proposed amendments to the definition of Forced Outages in clause 3.21.1 that provide further clarification on exclusions.

Table 4.1: Submitters' Assessment against the Wholesale Market Objectives (Submissions on the Draft Rule Change Report)

Submitter	Wholesale Market Objective Assessment
AEC	No specific assessment provided.
AEMO	AEMO considered that the Amending Rules created under the Rule Change Proposal would allow the WEM Rules to better achieve Wholesale Market Objectives (a) and (c).
Synergy	<p>Synergy considered that some of the administrative changes proposed in the Draft Rule Change Report will promote market efficiency (Wholesale Market Objective (a)), including the enhancement of the Forced Outages definition.</p> <p>However, Synergy considered that the introduction of the Triggering Outage Notice mechanism and amendments to the outage quantity determinations would not meet Wholesale Market Objective (d) given the high estimated implementation costs and reduced lifespan to reap benefits.</p>

Copies of all submissions received during and after the second submission period are available on the Rule Change Panel's website.

4.3 The Rule Change Panel's Response to Submissions Received on the Draft Rule Change Report

The Rule Change Panel's response to each of the specific issues raised in submissions received during and after the second submission period is presented in Appendix A of this report. A more general discussion of the proposal, which addresses the main issues raised in the submissions and the Rule Change Panel's response to these issues, is available in section 7.2 of this report.

4.4 Consultation Following the Second Submission Period

Following the close of the second submission period, RCP Support:

- consulted extensively with AEMO to:
 - seek clarification of comments made by AEMO in its second period submission;
 - discuss informal feedback provided by AEMO on the drafting of the proposed Amending Rules;
 - seek advice regarding an issue raised by Synergy in its second period submission about transparency of North Country network constraints;
 - discuss AEMO's concerns about the use of the defined terms Outage Plan, Scheduled Outage and Planned Outage in proposed section 1.nn;⁶
 - seek confirmation from AEMO regarding the current SMMITS-based processes for outage quantity determination;

⁶ In this report, a 'proposed section' or 'proposed clause' means the section or clause as proposed by the Rule Change Panel in the Draft Rule Change Report.

- seek clarification of AEMO's position regarding its obligations to adjust capacity-adjusted outage quantities for high-temperature days;
- seek feedback on the proposed additional changes to the outage quantity determination rules for Scheduled Generators;
- seek feedback on the drafting of the revised Amending Rules; and
- seek updated implementation cost and time estimates;
- met with Synergy to clarify how its IT systems and internal processes would be affected by the proposed Amending Rules;
- reviewed the temperature dependence curves, sent out capacities and SMMITS parameters of Scheduled Generators to ensure that the proposed additional changes to the outage quantity determination rules will have no adverse impact on Market Generators; and
- met with the AEC to clarify that its concerns related to the proposed amendments in the Draft Rule Change Report with material implementation impacts on AEMO and Market Participants.

Further details relating to the matters discussed in these meetings are available in section 7.2, section 7.6 and Appendix A of this report.

RCP Support also provided an update to the MAC regarding input assumptions for the Final Rule Change Report (as discussed in section 4.4.1).

4.4.1 MAC Consultation following the Second Submission Period

2 February 2021 MAC meeting⁷

Ms Jenny Laidlaw noted that RCP Support was preparing the Final Rule Change Report for this Rule Change Proposal. As part of that process, RCP Support was taking into account the submissions received in the second submission period (and particularly the cost estimates provided by Synergy), as well as some recent statements by AEMO relating to its resourcing and preparation for the WEM Reforms.

Ms Laidlaw advised that RCP Support had discussed some options with AEMO and had requested some additional information. RCP Support received some information on 29 January 2021, but had found the information to be confusing and so had sought further clarification from AEMO. RCP Support had not yet received the requested clarification or an estimated time for its provision.

To facilitate the completion of the long overdue Final Rule Change Report, RCP Support intended to proceed on the basis of a number of assumptions, and was counting on AEMO and/or Synergy to advise RCP Support within the next few days if any of those assumptions were incorrect. Ms Laidlaw provided a summary of RCP Support's assumptions, which are listed in Appendix C of this report.

Ms Laidlaw noted that, if AEMO was unable to provide updated cost estimates in time, particularly for the proposed changes to remove constrained off compensation for Scheduled Generators suffering Forced Outages or Consequential Outages, RCP Support would need to make its recommendations to the Rule Change Panel using conservative cost estimates based on previous advice from AEMO.

⁷ Please note that the minutes for the 2 February 2021 MAC meeting have not yet been finalised and this extract is taken from the draft minutes.

In response to requests from Ms Jo-Anne Chan and Ms Wendy Ng, the Chair agreed to email the list of assumptions to AEMO and Synergy for comment and to other MAC members for information.

Mr Dean Sharafi commented that the latest drafting provided to AEMO by RCP Support was significantly different from the drafting in the Draft Rule Change Report, and that AEMO was assessing the impact of the revised proposal. Ms Laidlaw replied that, given the timing pressures, RCP Support had requested several times to meet with AEMO's technical experts to discuss the drafting changes, because it was concerned about AEMO's perception that the changes required a new and complex IT quote.

The Chair noted that the Rule Change Panel's objective was to complete this Rule Change Proposal by the scheduled date (26 February 2021) so that RCP Support resources could be diverted to other urgent Rule Change Proposals, including Rule Change Proposal: Method used for the assignment of Certified Reserve Capacity to Intermittent Generators (RC_2019_03).

Ms Ng considered that, given the 1 October 2022 deadline for the WEM Reforms, any changes that diverted Rule Participant resources away from the WEM Reform program could be quite distracting. Ms Laidlaw replied that RCP Support was aware of the risks of diverting resources away from the WEM Reform program and was looking to avoid IT changes.

MAC Action Item – Input Assumptions for the Final Rule Change Report

On 3 February 2021, as requested by Ms Chan and Ms Ng, RCP Support sent an email to AEMO, Synergy and other meeting attendees containing a list of assumptions that RCP Support intended to use to develop this Final Rule Change Report, unless it was advised by AEMO (or Synergy, for the assumptions directly affecting it) that those assumptions were incorrect. A copy of the email is available in Appendix C of this report.

RCP Support received responses from both AEMO and Synergy on 5 February 2021.

AEMO's response:

- indicated that it had revisited the WEMS Registration Technical Guide (**Guide**), and agreed that the Guide was incorrect and Synergy's Standing Data for Appendix 1(b)(iii) was provided on a sent out basis;⁸
- withdrew the concerns it had raised about Appendix 1(b)(iii) in the information provided to RCP Support on 29 January 2021;
- advised that it would consider the potential to continue its current compliance risk-acceptance around its obligations to temperature-adjust capacity-adjusted outage quantities for high-temperature days under clause 3.21.6;⁹ and
- confirmed that it would be unable to provide an updated IT cost estimate by close of business that day, because it was still considering its position regarding compliance with its obligations in relation to high-temperature days under clause 3.21.6.

Synergy's response confirmed that the list contained no material factual inaccuracies in relation to Synergy-specific assumptions.

RCP Support received no other responses to its email.

⁸ In the information provided to RCP Support on 29 January 2021, AEMO had implied that the additional changes proposed to clauses 3.21.5 and 3.21.6 would produce a number of perverse outcomes because Synergy's Appendix 1 (b)(iii) values were provided on an as generated basis in accordance with the Guide.

⁹ Please see section 7.2.1.3 of this report for further details.

4.5 Public Forums and Workshops

The Rule Change Panel did not hold a public forum or workshop for this Rule Change Proposal.

5. The Rule Change Panel's Draft Assessment

The Rule Change Panel's draft assessment against clauses 2.4.2 and 2.4.3 of the WEM Rules and analysis of the Rule Change Proposal is provided in section 6 of the Draft Rule Change Report, available on the Rule Change Panel's website.

6. The Rule Change Panel's Proposed Decision as set out in the Draft Rule Change Report

The Rule Change Panel's proposed decision in the Draft Rule Change Report was to accept the Rule Change Proposal in a modified form, as set out in section 7 of the Draft Rule Change Report.

The reasons for the Rule Change Panel's proposed decision are set out in section 2.1 of the Draft Rule Change Report.

7. The Rule Change Panel's Final Assessment

7.1 Assessment Criteria

In preparing its Final Rule Change Report, the Rule Change Panel must assess the Rule Change Proposal in light of clauses 2.4.2 and 2.4.3 of the WEM Rules.

Clause 2.4.2 of the WEM Rules states that the Rule Change Panel “*must not make Amending Rules unless it is satisfied that the WEM Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives*”. Additionally, clause 2.4.3 of the WEM Rules states that, when deciding whether to make Amending Rules, the Rule Change Panel must have regard to:

- any applicable statement of policy principles the Minister has issued to the Rule Change Panel under clause 2.5.2 of the WEM Rules;
- the practicality and cost of implementing the proposal;
- the views expressed in submissions and by the MAC; and
- any technical studies that the Rule Change Panel considers necessary to assist in assessing the Rule Change Proposal.

In making its final decision, the Rule Change Panel has had regard to each of the matters identified in clauses 2.4.2 and 2.4.3 of the WEM Rules as follows:

- the Rule Change Panel's assessment of the Rule Change Proposal against the Wholesale Market Objectives is available in section 7.4 of this report;
- the Rule Change Panel notes that there has not been any applicable statement of policy principles from the Minister in respect of this Rule Change Proposal;
- the Rule Change Panel's assessment of the practicality and cost of implementing the Rule Change Proposal is available in section 7.6 of this report;
- a summary of the views expressed in submissions and by the MAC is available in section 5 of the Draft Rule Change Report and section 4 and Appendix A of this report. The Rule Change Panel's response to these views is available in sections 6.3 and 6.4, Appendix B and Appendix D of the Draft Rule Change Report, and section 7.2 and Appendix A of this report; and
- the Rule Change Panel does not believe a technical study in respect of this Rule Change Proposal is required and therefore has not commissioned one.

The Rule Change Panel's assessment is presented in the following sections.

7.2 Assessment of the Proposed Changes

Sections 6.3 and 6.4 of the Draft Rule Change Report discuss:

- the Rule Change Panel's draft assessment of the issues raised in the Rule Change Proposal and the amendments that were proposed by the IMO to address those issues; and
- several additional changes proposed by the Rule Change Panel to address new but related issues identified during the Rule Change Panel's assessment of the Rule Change Proposal.

Since the publication of the Draft Rule Change Report, the Rule Change Panel has undertaken further assessment of many aspects of the proposed amendments, mainly in response to issues raised in second period submissions and recent statements by AEMO relating to implementation of the WEM Reform program.

This section 7.2 discusses the main issues considered since the publication of the Draft Rule Change Report and the rationale for the additional changes that have been made to the proposed Amending Rules. The Rule Change Panel's assessment of the remaining issues raised in second period submissions is available in Appendix A of this report.

Apart from where indicated in this section 7.2, the Rule Change Panel's assessment of the changes proposed in the Draft Rule Change Report is unaltered.

7.2.1 Reassessment of Changes with IT System Impacts

The Rule Change Panel has reassessed the proposed Amending Rules in the Draft Rule Change Report that require material IT system changes, and has decided not to progress:

- the proposed network outage transparency improvements, including the Triggering Outage Notice mechanism and the support for ex-ante Consequential Outage requests;
- the proposed changes to support the reporting of outage quantities for Scheduled Generators and Non-Scheduled Generators on a temperature-independent basis; and
- the proposed changes to remove constrained off compensation for Scheduled Generators that experience a Forced Outage or Consequential Outage in the relevant Trading Interval.

The Rule Change Panel's assessment of the net benefits of these amendments has changed for two main reasons. The first reason is the very high implementation cost estimate (around \$250,000 to \$350,000 excluding contingency) provided by Synergy in its second period submission. Although Synergy previously flagged that it would need to update its trading systems, the magnitude of its implementation cost estimate is far greater than anticipated.

The second reason is the extent to which the implementation of these amendments could threaten the timely implementation of the WEM Reform program. During the last MAC discussion about the prioritisation of this Rule Change Proposal on 16 June 2020, neither AEMO nor Synergy indicated that implementing the proposed amendments would endanger their ability to meet their respective WEM Reform deadlines. However, since that discussion:

- Synergy has indicated, in both its second period submission and subsequent discussions with RCP Support, that implementing the required changes to allow it to respond to Triggering Outage Notices in a timely manner and to report outage quantities on a temperature-independent basis could jeopardise Synergy's ability to complete its WEMMR readiness program on time; and
- AEMO has noted in several forums (including at the 28 January 2021 meeting of the WEM Reform Implementation Group) that it is currently uncertain of its ability to meet the target dates for the Real-Time Market and other major WEM Reform changes. While the ETS has not changed AEMO's business-as-usual obligations under the WEM Rules, and the IT changes contemplated under this Rule Change Proposal are small compared with the WEM Reform changes, AEMO nevertheless indicated in its second period submission that implementing the former would have negative implications on its ability to pursue the WEM Reform objectives because it would direct resources away from the WEM Reform program.

While the Rule Change Panel has not changed its view on the benefits of the proposed amendments, it considers that Synergy's additional IT costs and the potential cost of delays to the WEM Reform program increase the total costs of the proposed amendments listed above beyond the likely benefits over their expected lifespan.

The remainder of this section 7.2.1 provides further details of the outcomes of the Rule Change Panel's reassessment.

7.2.1.1 Network Outage transparency amendments

As noted above, the Rule Change Panel has made additional changes to the proposed Amending Rules to remove the proposed Triggering Outage Notice mechanism. These changes include:

- removal of proposed section 3.20A (Triggering Outage Notices),
- removal of the proposed defined terms Effective Capacity, Foreseeable Constraint, Triggering Outage and Triggering Outage Notice;
- removal of the proposed changes to the definition of External Constraint to include Foreseeable Constraints;
- removal of proposed clauses 3.21.11, 7.6.1I to 7.6.1K and 7A.2A.5;
- amendments to proposed clauses 3.21.2, 3.21.2B, 3.21.4, 3.21.4B, 3.21.12 to 3.21.18, 4.11.1(h), 4.25.3A, 7.1.1, 7.6.1C, 7.6.1D, 7.13.1G, 7A.2.4B, 7A.2.8A, 7A.2.8B, 7A.2.9A, 7A.2A.1, 7A.2A.2 and 10.5.1(k), and the definition of Equivalent Planned Outage Hours, to remove references to Foreseeable Constraints and Triggering Outage Notices and to renumber clauses and clause references as required; and
- removal of the associated transitional provisions in clauses 1.nn.2 and 1.nn.3.

7.2.1.2 Outage quantity determination – temperature adjustment

During discussions to clarify Synergy's second period submission, Synergy advised RCP Support that it uses outage information published by AEMO, including capacity-adjusted outage quantities and the real-time (unadjusted) outage quantities published under clause 10.5.3 as inputs to its trading systems.

Synergy indicated that its trading systems assume that capacity-adjusted outage quantities are determined on a 41 degree basis and real-time outage data is provided on a sent out 15 degree basis, and would require extensive changes if these underlying temperature assumptions were invalidated by the change that was proposed in the Draft Rule Change Report to require outage quantities to be reported on a temperature-independent basis.

The concept of reporting outage quantities on a temperature-independent basis has been part of the Rule Change Panel's straw man proposal for determining outage quantities since its first presentation at the 13 December 2017 MAC meeting. The Rule Change Panel continues to consider that reporting quantities of de-rating on a temperature-independent basis would be preferable for reasons that are set out in the Draft Rule Change Report.¹⁰

However, the Rule Change Panel's primary concern is to address the manifest errors that exist in clauses 3.21.5 and 3.21.6. The proposed change to report quantities of de-rating on a temperature-independent basis is an enhancement, but is not needed to resolve any

¹⁰ Please see sections 6.3.3.2 and 6.3.3.5 of the Draft Rule Change Report for further details.

manifest errors. Given the additional costs identified during the second submission period, the Rule Change Panel has decided not to proceed with this specific change.

Nevertheless, problems still exist around the assumptions used to record unadjusted outage quantities and to convert those quantities to capacity-adjusted outage quantities. Currently clauses 3.21.5 and 3.21.6 effectively require AEMO to determine the “maximum capacity measured on a sent out basis at 41 degrees” for each Scheduled Generator, “where the maximum capacity is as found in the Standing Data file for Temperature Dependence provided under Appendix 1(b)(iv) and converted to a sent out basis at 41 degrees”.

AEMO is further required to convert quantities of de-rating that are entered by Market Participants “on a sent out basis at 15 degrees” to a sent out basis at 41 degrees by multiplying the outage quantity at 15 degrees by the ratio of the maximum capacity at 41 degrees (**AG41**) to the maximum capacity at 15 degrees (**AG15**) for the Facility as found in the Standing Data file for Temperature Dependence provided under Appendix 1(b)(iv) on a generated basis for that Facility (**AG41/AG15**).

In practice, SMMITS assumes that the maximum capacity of a Scheduled Generator as measured on a sent out basis at 15 degrees (i.e. the maximum outage quantity that can be recorded for a Scheduled Generator on a sent out basis at 15 degrees under clause 3.21.6(a)) is the “sent out capacity” of the Scheduled Generator recorded under Appendix 1(b)(iii) (**SOC**).

SMMITS expects outage quantities to be entered on an as generated 15 degree basis, where the maximum outage quantity is SOC divided by Coefficient 1. Coefficient 1 is a generator-specific parameter provided by the Market Participant and manually entered by AEMO into SMMITS. Currently:

- Coefficient 1 is set to 1 for all Independent Power Producer (**IPP**) Scheduled Generators; and
- some of Synergy’s Scheduled Generators (mainly the larger ones) have Coefficient 1 values that are less than 1, and the remainder have a Coefficient 1 value of 1.

The Rule Change Panel notes that IPPs do not really enter outage quantities on an as generated basis, because their Coefficient 1 values are all set to 1 regardless of their auxiliary loads; and have no obligation under the WEM Rules to do so.

SMMITS stores both the ‘as generated’ outage quantity and what the system assumes to be the equivalent sent out 15 degree outage quantity for each outage record. The sent out quantity, which is the value published in the real-time outage data files on the WEM Website and used to calculate capacity-adjusted outage quantities, is calculated by multiplying the as generated outage quantity by Coefficient 1.

For the capacity-adjusted outage quantities determined under clause 3.21.6 for the schedules specified in clauses 7.3.4 and 7.13.1A(b), the SMMITS calculations assume that for Scheduled Generators:

- the ‘maximum capacity of the Facility’ referred to in clauses 3.21.5, 3.21.6(b)(ii), 3.21.6(c)(ii)(2), 3.21.6(d)(ii)(2) and 3.21.6(f) is equal to SOC multiplied by Coefficient 2, where Coefficient 2 is determined as AG41/AG15 and manually entered by AEMO into SMMITS; and
- the RCOQ value referred to in clauses 3.21.6(b), 3.21.6(c) and 3.21.6(d) is the number of Capacity Credits held by the Scheduled Generator.

For example, a capacity-adjusted forced outage quantity (clause 3.21.6(b)) is calculated as:

$$\max(0, \sum (\text{Unadjusted Forced Outage Quantity} \times \text{Coefficient 2}) - (\text{SOC} \times \text{Coefficient 2} - \text{Capacity Credits}))$$

AEMO sets all capacity-adjusted outage quantities for Non-Scheduled Generators to zero.

While the current arrangement is workable for Synergy, it can lead to problems for other Market Participants because:

- the Appendix 1(b)(iii) value recorded in Standing Data for an IPP Scheduled Generator is not always equal to the maximum sent out capacity of the Scheduled Generator at 15 degrees, and can be either larger or smaller;¹¹ and
- the Coefficient 2 ratio (AG41/AG15) is not always a good approximation of the ratio of the maximum sent out capacity of a Scheduled Generator at 41 degrees over SOC, for example due to the effect of auxiliary loads.

These factors can distort the capacity-adjusted outage quantity calculations and lead to unexpected results. While Market Participants have developed various workarounds, those workarounds can be administratively burdensome and lead to other inappropriate outcomes.

Therefore, the Rule Change Panel has made additional changes to the proposed Amending Rules to avoid the need for either Synergy or AEMO to update their IT systems, while providing a solution for any problems that may be caused by the potentially invalid assumptions that underlie the current outage quantity calculations. The additional changes include:

- reversing the proposed changes to the SOC definitions in Appendix 1(b)(iii) and Appendix 1(e)(iiiA), to prevent Market Participants from having to change the basis on which they report those values;
- amending proposed clause 3.21.5 to:
 - replace the term “maximum sent out capacity” with “sent out capacity”, because the relevant values may not always reflect the maximum sent out capacity of the Facility; and
 - require quantities of de-rating to be measured assuming the temperature associated with the Facility’s SOC;
- amending proposed clause 3.21.6 to include a temperature adjustment factor (**TAF**) that is equivalent to SMMITS Coefficient 2 in the capacity-adjusted outage quantity calculations;
- adding new clause 3.21.6A to require AEMO to determine the TAF for a Scheduled Generator:
 - if requested to do so by the Market Participant, as the maximum sent out capacity of the Scheduled Generator at an ambient temperature of 41 degrees,¹² divided by the Scheduled Generator’s SOC; and
 - otherwise, as the current default value of AG41/AG15;

¹¹ As discussed in section 6.3.3.2 of the Draft Rule Change Report, requiring these values to be recorded at a specific temperature could place an unjustifiable limit on the quantity that a Market Participant could offer into the Balancing Market, if its Scheduled Generator is able to generate higher quantities at other temperatures. Further, that these values are not all provided on a 15 degree basis does not appear to be having any material impact on AEMO’s operations or power system security and reliability.

¹² As provided by the Market Participant to AEMO and used by AEMO for the purposes of Reserve Capacity Testing for the applicable Capacity Year.

- adding new clause 3.21.6B to allow a Market Participant to request AEMO to use the non-default TAF calculation for its Scheduled Generator;
- replacing “maximum sent out capacity” with “sent out capacity” in the definition of Available Capacity; and
- removing proposed transitional clauses 1.nn.4 to 1.nn.8 as they are no longer required.

7.2.1.3 Outage quantity determination – use of DEF_RCOQ

Based on the information that has been provided by AEMO, the Rule Change Panel understands that the additional changes to proposed clauses 3.21.5 and 3.21.6 set out in section 7.2.1.2 of this report will leave those clauses consistent with the current market arrangements, except that:

- (1) Market Participants will be able to request that AEMO use an alternative Coefficient 2 value for its Scheduled Generator;
- (2) the existing obligation for AEMO to set capacity-adjusted outage quantities to zero for Trading Intervals where a Scheduled Generator is subject to an approved Commissioning Test would be removed, because the DEF_RCOQ parameter, which replaces RCOQ in the clause 3.21.6 calculations, excludes the adjustment that applies to RCOQ for approved Commissioning Tests;¹³ and
- (3) the existing obligation for AEMO to ‘temperature-adjust’ capacity-adjusted outage quantities for outages on Trading Days where the ambient site temperature exceeds 41 degrees¹⁴ would remain, because the DEF_RCOQ parameter does not exclude this adjustment.

RCP Support asked AEMO to provide a revised IT cost estimate that reflected the additional changes. It was assumed that AEMO would be able to implement the revised clauses without the need for any material IT expenditure because:

- change (1) only requires a minor variation to the manual processes that AEMO uses to maintain Coefficient 2 values;
- AEMO has previously advised RCP Support that the cost of reversing the recently implemented Commissioning Test adjustment (for change (2)) would be negligible; and
- AEMO’s approach to meeting its compliance obligation under point (3) would be unaffected by the Amending Rules, because the Amending Rules do not change the obligation or make AEMO any more or less compliant with that obligation.

However, AEMO’s preliminary response to RCP Support suggested that it was working on the basis that it still needed to make large-scale system changes to implement the revised clauses. During a discussion with AEMO on 3 February 2021, AEMO indicated that, while it had not yet completed its assessment, the only reason it had identified for large-scale IT system changes was to ensure that its IT systems were compliant with (3).

Accordingly, RCP Support sought confirmation from AEMO on its position regarding point (3). AEMO provided the following response on 11 February 2021:

¹³ However, the proposed Amending Rules also remove the requirement for a Market Participants to report a Forced Outage for outages of a Scheduled Generator that occur within a period in which the Facility is subject to an approved Commissioning Test and are caused by a failure of the Facility’s equipment during that Commissioning Test.

¹⁴ ‘Temperature-adjust’ in this context means reducing the value of the RCOQ parameter used in the capacity-adjusted outage quantity calculations to reflect the reduction in the RCOQ of a Scheduled Generator that usually occurs in accordance with clause 4.12.4(b)(i) when the maximum site temperature for the relevant Trading Day exceeds 41 degrees. Temperature-adjustment would usually reduce the size of the capacity-adjusted outage quantity.

- a. In November 2015, AEMO inherited systems and processes from the IMO and the ring-fenced entity System Management.
- b. This included several long-standing non-compliances with the WEM Rules.
- c. Whilst AEMO targets full compliance with the WEM Rules, in determining the best approach to this inheritance, AEMO considered the cost of compliance compared to the benefits to Participants. Where the cost outweighed the benefits, AEMO chose to risk-accept further non-compliance and maintain the status quo particularly if relevant non-compliant clauses were likely to be changing.
- d. One such circumstance was the calculation of capacity-adjusted outages in WEM Rule 3.21.6, which, since 2007, had used the annual published Capacity Credit value as opposed to the Reserve Capacity Obligation Quantity (RCOQ).
- e. As Participants can identify that AEMO does not use RCOQ in 3.21.6 and have not raised this as an issue in many years, it would appear that the financial impacts of the non-compliance are low. The costs to remedy this non-compliance are not.
- f. AEMO seeks to comply with any Rule Change. In addition, where the Rules relating to an existing non-compliance are varied, AEMO would normally seek to remedy the non-compliance as part of the changes required to comply with the proposed Rules.
- g. The Rule Change Panel proposes to vary WEM Rule 3.21.6 from RCOQ to DEF_RCOQ.
- h. On 3rd February 2021, the Rule Change Panel Secretariat requested that AEMO consider maintaining the current systems relating to WEM Rule 3.21.6, despite the Rule Change.¹⁵
- i. While AEMO's strong preference is that WEM Rule 3.21.6 be varied to use Capacity Credits rather than DEF_RCOQ to reflect AEMO's current systems and avoid any non-compliance, AEMO considered the Rule Change Panel Secretariat's request.
- j. On 8th February 2021, AEMO determined that, should the proposed drafting of WEM Rule 3.21.6 continue to refer to DEF_RCOQ, it would be prudent to maintain the status quo use of Capacity Credits as:
 - i. The cost of implementing DEF_RCOQ is unchanged from RCOQ and is greater than \$100,000.
 - ii. Though the annual Capacity Credit value differs from DEF_RCOQ, the frequency and quantum of difference is much less than compared to RCOQ.
 - iii. Therefore the financial impacts of continuing to use Capacity Credits instead of DEF_RCOQ should be less than current (which would already appear to be low).

¹⁵ The Rule Change Panel notes that RCP Support did not request that AEMO consider maintaining its current systems despite the Rule Change Proposal. Instead, RCP Support's request on 3 February 2021 was only for clarification of AEMO's position, because it was unclear how AEMO could consider itself more or less compliant with the WEM Rules if clause 3.26.1 was amended.

- iv. Proposed changes to other Rules stemming from this Rule change appear to only require minor variations [to] AEMO's systems.
- v. The life-span of any system changes is short, as AEMO's systems will be replaced as part of WEM Reform.
- vi. The life-span of non-compliance is short, as WEM Rule 3.21.6 will not be retained in WEM Reform.
- vii. The above is AEMOs view and should the ERA, Market Auditor or participants identify this was a material non-compliance then AEMO would give new consideration to implementing the necessary changes to achieve compliance.”

The Rule Change Panel notes that replacing DEF_RCOQ in clause 3.21.6 with the number of Capacity Credits would require a Market Generator to pay Capacity Cost Refunds for outages of capacity beyond its RCOQ. Even though the potential financial impact is small (around \$1,250-\$7,500 for a full Trading Day for the worst-affected Scheduled Generator, assuming a Reserve Capacity Price of \$114,134/MW), the Rule Change Panel is reluctant to make such a change.

Further, the Rule Change Panel notes that AEMO's current IT systems do not preclude it from at least partial compliance with point (3), because AEMO is able to manually adjust capacity-adjusted outage quantities for a high-temperature day in the unlikely event that a Market Generator is materially affected.

The Rule Change Panel has therefore retained the use of DEF_RCOQ in the capacity-adjusted outage quantity calculations.

7.2.1.4 Removal of constrained off compensation

In the Draft Rule Change Report, the Rule Change Panel proposed to amend clause 6.16A.2(b) to set the Downwards Out of Merit Generation for a Balancing Facility in a Trading Interval to zero, if the Balancing Facility is a Scheduled Generator that is subject to a Forced Outage or Consequential Outage in the Trading Interval. The purpose of the change was to prevent the payment of unwarranted constrained off compensation to Scheduled Generators that are non-compliant with their Dispatch Instructions due to a Forced Outage or Consequential Outage.¹⁶

In the detailed cost estimates provided as input to the Draft Rule Change Report, AEMO indicated that about half of its estimated WEMS IT cost of \$342,860 (including contingency) was attributable to the proposed change to clause 6.16A.2(b). The change has no IT cost impacts for other Rule Participants.

While it is difficult to predict the future magnitude of spurious constrained off compensation due to its inherent variability, recent history indicates that the benefits of the proposed change to clause 6.16A.2(b) would likely outweigh a \$170,000 implementation cost.

However, AEMO has indicated that the implementation cost might exceed \$170,000 if the change was implemented in isolation, because the change would attract a higher proportion of overhead costs that would be incurred despite the reduced scope of the WEMS changes. AEMO has not provided a 'stand-alone' cost estimate for this specific change.

Additionally, the change affects AEMO's settlement system, which AEMO is in the process of replacing through its Settlements Enhancements project. The Settlements Enhancements

¹⁶ Please see section 6.3.4.3 of the Draft Rule Change Report for further details.

project, which has already experienced some delays, was recently identified as a key dependency for the ETS reforms and moved into AEMO's WEM Reform program. Given AEMO's recent statements in both its second period submission and other forums, the Rule Change Panel is uncertain whether the proposed change could be implemented without increasing the risk of AEMO not meeting its WEM Reform obligations.

Due to its uncertainty about implementation costs and the impact on delivery of the ETS reforms, the Rule Change Panel has decided to make an additional change to the proposed Amending Rules to remove the proposed amendment to clause 6.16A.2(b).

7.2.1.5 IT changes to prevent retrospective Planned Outage changes

In the detailed cost estimates provided to RCP Support as input to the Draft Rule Change Report, AEMO indicated that it would incur IT costs to implement the proposed changes to clauses 3.18.2A, 3.18.9A and 3.19.2E (to prevent retrospective changes to Planned Outage end times or quantities of de-rating).

The Rule Change Panel noted in the Draft Rule Change Report that physically preventing adjustments to Planned Outage end times in SMMITS was not the only implementation option and could:

- interfere with the current arrangements whereby Western Power field crews can notify AEMO of early returns to service by telephone in the first instance; and
- require special arrangement to handle periods in which SMMITS is unavailable.

On 11 February 2021, AEMO advised RCP Support that it is not planning to make any IT system changes to enforce the obligations relating to retrospective Planned Outage changes in proposed clauses 3.18.2A, 3.18.9A and 3.19.2E. The Rule Change Panel therefore sees no reason not to implement the proposed amendments.

7.2.2 Impacts of ETS Amending Rules

Following review of the *Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020 (Tranches 2 and 3 Amending Rules)*, the Rule Change Panel has decided to make additional changes to the proposed Amending Rules to:

- restrict the calculation of capacity-adjusted outage quantities to Scheduled Generators; and
- reverse its proposed changes to the defined term names Available Capacity, Refund Exempt Planned Outage and Refund Payable Planned Outage.

The rationale for these additional changes is set out in the remainder of this section 7.2.2.

7.2.2.1 Restriction of capacity-adjusted outage quantity calculation to Scheduled Generators

Under the current WEM Rules, it is possible for a small, non-intermittent generating system to be registered as a Non-Scheduled Generator and assigned Capacity Credits. The Rule Change Panel considered that because a Facility of this type would have a non-zero RCOQ, it would also require the calculation of capacity-adjusted outage quantities for various purposes under the WEM Rules, including the calculation of Capacity Cost Refunds for Forced Outages.

Accordingly, the proposed Amending Rules in the Draft Rule Change Report required the calculation of capacity-adjusted outage quantities for both Scheduled Generators and

non-intermittent, Non-Scheduled Generators, collectively identified by a new defined term “Non-Intermittent Generator”.

However, since the publication of the Draft Rule Change Report:

- AEMO has advised RCP Support that extending the calculation of capacity-adjusted outage quantities to non-intermittent, Non-Scheduled Generators would increase AEMO’s implementation costs; and
- the Rule Change Panel has reviewed the Tranches 2 and 3 Amending Rules, which indicate that in future some non-intermittent, Non-Scheduled Facilities will be assigned Capacity Credits but have an RCOQ of zero.¹⁷

The Rule Change Panel notes that removing the requirement to calculate capacity-adjusted outage quantities for non-intermittent, Non-Scheduled Generators is not expected to have any effect in practice, because no non-intermittent generating system has been registered as a Non-Scheduled Generator to date, and there is no expectation that any Non-Scheduled Generator will be assigned a non-zero RCOQ before the start of the new market in October 2022.

The Rule Change Panel has therefore made additional changes to the proposed Amending Rules to:

- remove the proposed defined term “Non-Intermittent Generator”;
- amend clauses 3.21.6 and 3.21.8 to restrict the application of those clauses to Scheduled Generators;
- amend clauses 7.3.4, 7.3.5 and 7.13.1A(b) to restrict the schedules of capacity-adjusted outage quantities to outages of Scheduled Generators; and
- amend the definitions of Capacity-Adjusted Planned Outage Quantity, Capacity-Adjusted Forced Outage Quantity and Capacity-Adjusted Consequential Outage Quantity to refer only to outages of Scheduled Generators.

7.2.2.2 Reversal of proposed changes to defined term names

In the Draft Rule Change Report, the Rule Change Panel proposed to change the names of the following defined terms:

- Available Capacity, to TES Available Capacity;
- Refund Exempt Planned Outage, to Refund Exempt Planned Outage Quantity; and
- Refund Payable Planned Outage, to Refund Payable Planned Outage Quantity.

However, the Tranches 2 and 3 Amending Rules include provisions that replace the definitions of these terms as well as one of the clauses that refers to Refund Exempt Planned Outages and Refund Payable Planned Outages (clause 4.26.1C).

To avoid any conflict with the Minister’s amendments, the Rule Change Panel has made additional changes to the proposed Amending Rules to retain the current names of the three defined terms. The additional changes include:

- changes to the definitions of the three defined terms and Refund Exempt Planned Outage Count to restore the original defined term names;

¹⁷ For example, a Non-Scheduled Facility comprising an Electric Storage Resource.

- changes to clauses 6.15.2, 6.17.4 and 6.17.5A to restore the use of the term Available Capacity; and
- changes to clauses 4.26.1A, 4.26.1C, 4.26.1D and 4.26.2 to restore the use of the terms Refund Exempt Planned Outage and Refund Payable Planned Outage.

7.2.3 Outage Planning Terminology Clarification

During the progression of Rule Change Proposal: Outage Planning Phase 2 – Outage Process Refinements (RC_2013_15), there was some confusion about the meaning of the terms Outage Plan, Scheduled Outage and Planned Outage in the WEM Rules.

AEMO made several drafting suggestions in its response to the RC_2013_15 call for further submissions, which were based on certain assumptions about the meaning of the terms (e.g. an assumption that when an Outage Plan is accepted by AEMO it becomes a Scheduled Outage). The Rule Change Panel disagreed with AEMO's assumptions (and therefore several of its drafting suggestions), in part because they were inconsistent with the use of the terms in the WEM Rules, but also because they failed to distinguish between an outage and a request or plan for that outage.

RCP Support and AEMO discussed AEMO's drafting suggestions at a meeting on 29 January 2019, where AEMO agreed with the Rule Change Panel's reasons for not making the suggested changes. To avoid further confusion, the Rule Change Panel included an Appendix in the Draft Rule Change Report for RC_2013_05 (Appendix F: Planned Outage Terminology) that provided a detailed explanation of the Rule Change Panel's interpretation of the relevant terms in the WEM Rules. Neither AEMO nor any other stakeholder raised any concerns about Appendix F in their submissions on the Draft Rule Change Report or in the drafting workshop for RC_2013_15 held on 10 June 2019.

Both the final Amending Rules for RC_2013_15 and the Amending Rules for this Rule Change Proposal are based on the outage terminology set out in Appendix F.

However, during consultation with AEMO on the proposed transitional rules for this Rule Change Proposal, it became apparent that AEMO had returned to its interpretation of outage planning terminology that had already been rejected by the Rule Change Panel, and therefore did not propose to implement the transitional provisions as intended. AEMO noted its position in its second period submission for this Rule Change Proposal, as follows:

“The Panel has indicated on page 106 of the Rule Change Proposal (at footnote 123) that proposed transitional rule 1.nn.6 applies to Scheduled Outages and Planned Outages. However, the drafting only refers to an Outage Plan – thereby excluding Scheduled Outages and Planned Outages. AEMO's long-standing view has been that a Scheduled Outage becomes a Planned Outage. That is, the term 'Outage Plan' does not include a Planned Outage. AEMO is discussing this potential omission with the Panel.”

During subsequent discussions with RCP Support, AEMO confirmed that:

- its view on whether an Outage Plan ceased to be an Outage Plan when it was scheduled in AEMO's outage schedule was dependent on which clause was being considered (i.e. it assumed that an accepted Outage Plan was still an Outage Plan when interpreting some clauses, but assumed that an accepted Outage Plan was no longer an Outage Plan when interpreting other clauses); and
- it considered that when a Scheduled Outage is approved it becomes a Planned Outage and ceases to be a Scheduled Outage.

The Rule Change Panel does not agree with AEMO's views for the following reasons:

- AEMO's view implies that a Scheduled Outage is an accepted/scheduled Outage Plan, rather than a type of outage. This interpretation conflicts with the Glossary definition of a Scheduled Outage (which refers to "an outage that has an Outage Plan that is included in AEMO's outage schedule", not "an Outage Plan that is included in AEMO's outage schedule") and with the use of the term in several clauses, including clauses 3.19.2 and 3.19.11.
- Even if an Outage Plan did become a "Scheduled Outage" when it was scheduled in AEMO's outage schedule, there is nothing in the WEM Rules to indicate that it would cease to be an Outage Plan. On the contrary, multiple clauses exist in the WEM Rules that explicitly refer to Outage Plans that have been scheduled in AEMO's outage schedule. For example:
 - the header of clause 3.18.13 states "Following an evaluation of a new Outage Plan or an Outage Plan or group of Outage Plans that AEMO has previously accepted fully or subject to conditions";
 - clause 3.18.13(d)(ii)(2) refers to AEMO removing Outage Plans from its outage schedule where they were previously scheduled;
 - clause 3.18.14 refers to "Outage Plans that have previously been scheduled in AEMO's outage schedule"; and
 - clause 3.19.12(a) states "Where AEMO informs a Market Participant or Network Operator that an Outage Plan previously scheduled in System Management's outage schedule is rejected within 48 hours of the time when the outage would have commenced in accordance with the Outage Plan, the Market Participant or Network Operator may apply to AEMO for compensation."
- The WEM Rules do not specify that a Scheduled Outage ceases to be a Scheduled Outage when it is approved. Further, making this assumption leads to several perverse outcomes. For example:
 - a Rule Participant would not be obliged to inform AEMO if it decided not to take a Planned Outage once it was approved (clause 3.18.8);
 - a Rule Participant would not be obliged to inform AEMO about changes to its Outage Plan (e.g. changes to the proposed start and end times) once a Planned Outage had been approved (clauses 3.18.9 and 3.18.9A);
 - a Market Participant would not be obliged to inform AEMO about changes to the availability of its Facility that could reduce the Facility's eligibility for a Planned Outage extension once the relevant outage had been approved;
 - approving a Planned Outage early could give it precedence over another outage that may have been scheduled earlier, by excluding it from the periodic reassessments conducted as part of the Medium Term Projected Assessment of System Adequacy (**PASA**) and Short Term PASA studies;
 - clause 3.19.12 would either have no meaning (because an Outage Plan previously scheduled in AEMO's outage schedule could not exist because it would no longer be an Outage Plan); or else would allow for compensation to be paid for the late rejection of a Scheduled Outage only if it had not been approved prior to its rejection; and

- the term “Outage” would mean a Forced Outage (an outage), a Consequential Outage (an outage) and an approved plan for an unnamed type of outage.

The Rule Change Panel does not consider that an interpretation that leads to these outcomes is reasonable.

To avoid any further confusion, the Rule Change Panel has made additional changes to the proposed Amending Rules to:

- amend clause 3.18.4A to clarify that an Outage Plan does not cease to be an Outage Plan if the outage to which it relates becomes either a Scheduled Outage or a Planned Outage; and
- amend the Glossary definition of Scheduled Outage to clarify that a Scheduled Outage does not cease to be a Scheduled Outage if it is approved by AEMO and becomes a Planned Outage.

AEMO initially advised RCP Support that one of the main reasons for its position was that if a Scheduled Outage did not cease to be a Scheduled Outage when it was approved, then AEMO would be required to continue to re-evaluate the Outage Plan under clause 3.18.10(b) as part of its routine MT PASA and ST PASA studies. AEMO indicated that the evaluation criteria it used under clause 3.18.11 to evaluate Outage Plans differed from, and were stricter than, the criteria it used under clause 3.9.6 to consider approval of a Scheduled Outage. Requiring AEMO to re-evaluate approved Planned Outages using the stricter criteria under clause 3.18.11 would increase the likelihood of a late rejection of a previously approved Planned Outage to an extent that would “remove any certainty for Participants undertaking maintenance”.

However, AEMO has since advised RCP Support that the criteria it applies to approve Scheduled Outages are not less strict than the criteria it applies when accepting Outage Plans; and that it has re-evaluated the outage planning process and is comfortable that the proposed rule changes (including the additional changes to clause 3.18.4A and the definition of Scheduled Outage described above) are unlikely to change its current processes or result in more last minute rejections.

7.2.4 Additional Minor Issues

The Rule Change Panel also proposes the following minor amendments to improve the clarity and integrity of the Amending Rules:

- update of the clause reference in clause 3.21.10 to be more specific (i.e. to refer to clause 3.21.6(a) instead of clause 3.21.6);
- replacement of the dashes used to denote a clause range in clauses 7.13.1E(b), 7.13.1G(b) and 7.13.1G(c) with “to” to improve readability (as suggested by AEMO);
- minor enhancements to proposed clauses 3.18.9A(e), 3.19.2E(e), 3.21.9, 6.17.9, 7A.2.8A and 7A.2.8B to clarify their meaning; and
- removal of “means” at the start of the Scheduled Outage definition to improve consistency with WEM Rules standards for Glossary definitions.

7.3 Additional Changes to the Proposed Amending Rules

7.3.1 Additional Amendments following the First and Further Submission Periods

Following the first and further submission periods, the Rule Change Panel made some additional changes to the proposed Amending Rules. A summary of these changes is available in section 6.5 of the Draft Rule Change Report.

7.3.2 Additional Amendments following the Second Submission Period

The Rule Change Panel has made some further changes to the proposed Amending Rules following the second submission period. These changes are shown in Appendix B of this report and are discussed in section 7.2 of this report.

The Rule Change Panel notes that the base drafting in section 8 and Appendix B of this report has been updated to reflect the commencement of:

- the Amending Rules for Rule Change Proposal: Implementation of 30-Minute Balancing Gate Closure (RC_2017_02) on 1 December 2020; and
- the *Wholesale Electricity Market Amendment (Tranche 1 Amendments) Rules 2020, Schedule B, Part 2* on 1 February 2021.

The Rule Change Panel also notes that the *WEM Amendment (Reserve Capacity Pricing Reforms) Rules 2019* include changes to two clauses affected by this Rule Change Proposal (clauses 4.25.9 and 4.26.1) that will commence on 1 October 2021. However, the amendments to these clauses in the Amending Rules for this Rule Change Proposal do not affect the Minister's amendments.

The Minister has also made many changes to the WEM Rules in Schedule C of the Tranches 2 and 3 Amending Rules (**Schedule C**). The Amending Rules in Schedule C are to commence at a time specified by the Minister in notices published in the Gazette. While some of the Schedule C Amending Rules commenced on 1 February 2021, and others will commence on 1 July 2021, most are expected to commence when the new market begins on 1 October 2022.

In most cases, the Amending Rules for this Rule Change Proposal do not affect the Schedule C amendments because the Schedule C amendments fully replace the relevant sections, clauses and definitions. However, the Rule Change Panel notes the following:

- Schedule C amends, but does not replace, clause 4.25.3A, so further amendment will be required when the new market begins to delete new clause 4.25.3A(e) (which refers to Consequential Outages);
- the Schedule C deletion of the defined term Sent Out Capacity will have no effect because the defined term will have been renamed Balancing Facility Maximum Capacity; and
- further amendments will be required to delete the following defined terms when the new market begins:
 - Capacity-Adjusted Planned Outage Quantity, Capacity-Adjusted Forced Outage Quantity and Capacity-Adjusted Consequential Outage Quantity;¹⁸

¹⁸ Note the corresponding terms in Schedule C do not have a hyphen between the first and second words.

- Balancing Facility Maximum Capacity; and
- Unadjusted Planned Outage Quantity, Unadjusted Forced Outage Quantity and Unadjusted Consequential Outage Quantity.

The Rule Change Panel will liaise with Energy Policy WA to ensure that these additional changes are addressed.

7.4 Wholesale Market Objectives

The Wholesale Market Objectives are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

The Rule Change Panel considers that the WEM Rules as a whole, if amended as proposed in section 8 of this report, will better achieve Wholesale Market Objectives (a), (b) and (c) and be consistent with the remaining Wholesale Market Objectives.

The Rule Change Panel's assessment is presented below.

Amendments to the Consequential Outage process

The removal of the requirement to provide an authorised notice to request approval of a Consequential Outage will promote economic efficiency by removing an unnecessary administrative burden on both Rule Participants and AEMO.

Reserve Capacity Test exceptions and ex-ante outages

The changes to discard the results of a Reserve Capacity Test if a Facility suffers a Consequential Outage during the test will promote economic efficiency by preventing unwarranted reductions of Capacity Credits on the basis of invalid test results.

The obligation on Rule Participants to notify AEMO if they become aware that their Outage Facility will suffer a Forced Outage from a specific time in the future will promote the reliable supply of electricity by providing more timely and accurate information to AEMO about the availability of Outage Facilities.

Outage quantity reporting and capacity-adjusted outage quantity calculation

The removal of the obligation to report a Forced Outage for a failure that occurs during an approved Commissioning Test will promote economic efficiency by removing an unnecessary administrative burden on Market Generators.

The changes to the capacity-adjusted outage quantity calculations will correct manifest errors in the WEM Rules and will promote economic efficiency by providing an option for Market Generators to prevent errors and administrative costs that can result from the temperature

conversion assumptions used in the current calculations, while still ensuring appropriate outcomes for outages that occur on high-temperature days.

Other issues identified by the Rule Change Panel

The extension of the Consequential Outage definition to cover outages caused by any Network equipment will avoid discrimination against distribution-connected generators and promote economic efficiency through the provision of more accurate inputs to Relevant Level calculations.

The ability for AEMO to set tighter SMMITS reporting deadlines for Forced Outages of a specific Scheduled Generator will promote economic efficiency by improving the effectiveness of AEMO's prudential monitoring.

General competition effects

The proposed amendments will encourage competition among generators by reducing the costs and risks of participation in the market, through:

- clarification of obligations to report Forced Outages and Consequential Outages to AEMO and to record quantities of de-rating;
- removal of unnecessary obligations;
- improved clarity regarding the processes used to report Forced Outages and request Consequential Outages;
- prevention of potential reductions of Capacity Credits due to the impact of a network outage on Reserve Capacity Test results; and
- ensuring that distribution-connected generators are eligible for Consequential Outages.

7.5 Protected Provisions, Reviewable Decisions and Civil Penalties

The Amending Rules do not affect any Protected Provisions or Reviewable Decisions.

The Amending Rules include changes to clause 3.21.4, which requires a Rule Participant to notify AEMO as soon as practicable of a Forced Outage or Consequential Outage affecting its Outage Facility. Clause 3.21.4 is currently subject to a Category C civil penalty. However, the Rule Change Panel considers no changes to the civil penalty are required, because the amendments do not alter the general meaning and intent of the clause.

The Rule Change Panel does not consider that there is a need for any other clauses in the Amending Rules to be subject to civil penalties.

7.6 Practicality and Cost of Implementation

7.6.1 Cost

As discussed in section 7.2.1 of this report, the Rule Change Panel has made a number of additional changes to the proposed Amending Rules to remove the need for Market Participants to make material changes to their IT systems and internal procedures. Specifically, the additional changes:

- remove the need for Market Generators to make changes to comply with the proposed obligations to update their Balancing Submissions in response to late changes to Foreseeable Constraints; and

- remove the need for Synergy and other Market Generators that might be affected to modify their trading systems to account for the reporting of generator outage quantities on a temperature-independent basis.

While Market Generators may still need to make some changes to their internal procedures, the changes are small and mainly relate to the removal of obligations (e.g. the removal of the requirement to provide an authorised notice for a Consequential Outage, or to report a Forced Outage for a failure during an approved Commissioning Test). The Rule Change Panel considers that the relevant changes will generally reduce administrative burden for Market Generators and their implementation should not require any significant diversion of Market Generator resources away from the WEM Reform program.

The additional changes discussed in section 7.2.1 of this report also remove the need for most of the components of AEMO's previous IT cost estimate. While AEMO has not provided an updated IT cost estimate, it has advised RCP Support that the number and extent of system changes should be minor. The only remaining IT system change identified by AEMO to date is to reverse its recently implemented change to reduce capacity-adjusted outage quantities to zero for Scheduled Generators that are subject to an approved Commissioning Test. As noted in section 7.2.1.3 of this report, AEMO previously advised RCP Support that the cost of this change is negligible.

The Rule Change Panel notes that AEMO will still need to review, and where necessary update, its internal procedures and the WEM Procedure: Facility Outages. However, the Rule Change Panel does not consider that the cost of this work should exceed AEMO's previous cost estimate of \$9,000,¹⁹ or that the work will divert AEMO resources to any extent that would threaten AEMO's WEM Reform timelines.

7.6.2 Practicality

In its second period submission, AEMO indicated that it required six months to implement the proposed changes, one month more than proposed in the Draft Rule Change Report.

The Rule Change Panel notes that the scope of AEMO's IT changes has greatly reduced, reducing the time required for their implementation. Given that AEMO has not proposed a revised implementation period estimate, the Rule Change Panel has decided to retain the proposed commencement date of 29 June 2021, on the basis that a four-month implementation window²⁰ should provide ample time for:

- AEMO to update its IT systems and procedures; and
- other Rule Participants to review and make any necessary amendments to their internal procedures.

The Rule Change Panel has not received any advice to indicate that Rule Participants would require a longer implementation period.

7.6.3 Amendments to Associated WEM Procedures

The Rule Change Panel notes that the proposed change will require amendments to the WEM Procedure: Facility Outages.

¹⁹ Provided in AEMO's second period submission.

²⁰ The implementation period is one month shorter than anticipated in the Draft Rule Change Report because the publication of this report was delayed by one month.

8. Amending Rules

The Rule Change Panel has decided to implement the following Amending Rules (~~deleted text~~, added text, clauses that are included for context but not amended):

Clause 3.18.1A has been amended to exclude small non-intermittent generators that may be registered as Non-Scheduled Generators from the exemption to request or report Outages below the materiality threshold.

3.18.1A. The obligations specified in this section 3.18 and sections 3.19 and 3.21 to request or report Outages do not apply to Market Participants in respect of an outage of ~~a Non-Scheduled~~ an Intermittent Generator if the average MW de-rating over the relevant Trading Interval is less than:

$$\min(0.1 \times \text{Nameplate_Capacity}, 10)$$

where Nameplate_Capacity is the MW quantity provided for the ~~Non-Scheduled~~ Intermittent Generator under Appendix 1(e)(ii).

...

Clauses 3.18.2A(h), 3.18.9A and 3.19.2E have been amended to prevent retrospective changes to Planned Outages that remove Trading Intervals from the outage period or reduce the quantity of de-rating. (Note that adding Trading Intervals or increasing the quantity of de-rating is already not permitted at any time.)

3.18.2A.

...

- (h) A Market Participant must not submit a revised notice of a proposed Planned Outage to AEMO for a Self-Scheduling Outage Facility that proposes:
- i. a new start time for the proposed Planned Outage that is earlier than the previous proposed start time;
 - ii. a new end time for the proposed Planned Outage that is later than the previous proposed end time; ~~or~~
 - iii. an increase in the quantity of de-rating; ~~i~~
 - iv. a new start time or quantity of de-rating for the proposed Planned Outage, if the time of submission is later than the previous proposed start time; or
 - v. a new end time for the proposed Planned Outage that is earlier than the time of submission.

...

...

Clause 3.18.4A has been amended to clarify the meaning of the term Outage Plan.

3.18.4A. A proposal submitted to AEMO in accordance with this section 3.18 by a Market Participant or Network Operator in which permission is sought from for some or all of the capacity or capability of an Equipment List Facility to be unavailable for service for a period is a proposed outage plan (“**Outage Plan**”). An Outage Plan does not cease to be an Outage Plan if the outage to which it relates becomes either a Scheduled Outage or a Planned Outage.

...

3.18.9A. A Market Participant or Network Operator must not submit a revised Outage Plan to AEMO that proposes:

- (a) a new start time for the proposed outage that is earlier than the previous proposed start time;
- (b) a new end time for the proposed outage that is later than the previous proposed end time; ~~or~~

(c) an increase in the quantity of de-rating; ~~;~~

(d) a new start time or quantity of de-rating for the proposed outage, if the time of submission is later than the previous proposed start time; or

(e) a new end time for the proposed outage that is earlier than the time of submission of the revised Outage Plan.

...

3.19.2E. A Market Participant or Network Operator must not submit a revised request for approval of Opportunistic Maintenance that proposes:

- (a) a new start time for the Opportunistic Maintenance that is earlier than the previous proposed start time;
- (b) a new end time for the Opportunistic Maintenance that is later than the previous proposed end time; ~~or~~

(c) an increase in the quantity of de-rating; ~~;~~

(d) a new start time or quantity of de-rating for the Opportunistic Maintenance, if the time of submission is later than the previous proposed start time; or

(e) a new end time for the Opportunistic Maintenance that is earlier than the time of submission of the revised request.

...

3.21. Forced Outages and Consequential Outages

Clause 3.21.1 has been amended to:

- use the defined term 'Outage Facility';
- exempt outages of Intermittent Generators that are below the materiality threshold defined in clause 3.18.1A;
- remove the obligation to report a Forced Outage for a generator that suffers a failure during an approved Commissioning Test; and
- renumber clause 3.21.1(aB) to 3.21.1(aA) for consistency with the drafting conventions of the WEM Rules.

3.21.1. A Forced Outage is any outage of ~~either a Facility or item of equipment on the list described in clause 3.18.2 or a Facility or generation system to which clause 3.18.2A relates~~ an Outage Facility that has not received AEMO's approval, including:

- (a) outages or de-ratings for which no approval was received from AEMO, excluding ~~Consequential Outages~~;
 - i. Consequential Outages;
 - ii. outages of an Intermittent Generator that under clause 3.18.1A are not required to be reported to AEMO; and
 - iii. outages of a Scheduled Generator that occur within a period in which the Facility is subject to an approved Commissioning Test and are caused by a failure of the Facility's equipment during that Commissioning Test;
- (aBA) outages or de-ratings as a result of a direction from AEMO under clause 2.28.3C;
- (b) any part of a Planned Outage that exceeds its approved duration; and
- (c) where the Market Participant or Network Operator does not follow a direction from AEMO under clause 3.20.1 to return the equipment to service within the time specified in the appropriate contingency plan.

Clause 3.21.2 has been amended to:

- use the defined term 'Outage Facility';
- extend the definition of a Consequential Outage to cover an outage caused by an outage of equipment that is part of a Network but not included on the Equipment List; and
- remove the reference to clause 3.21.10 as it is no longer required.

3.21.2. A Consequential Outage is an outage of ~~either a Facility or item of equipment on the list described in clause 3.18.2 or a facility or generation system to which clause 3.18.2A relates for which no approval was received from AEMO~~ an Outage Facility that is not an approved Planned Outage, but which AEMO determines:

- (a) was caused by a Forced Outage to another Rule Participant's equipment and would not have occurred if the other Rule Participant's equipment did not suffer a Forced Outage; or
- (b) was caused by ~~a Planned Outage to a Network Operator's equipment and would not have occurred if the Network Operator's equipment did not undertake the Planned Outage, any outage of an item of equipment that is part of a Network, including a Forced Outage or a Planned Outage, and would not have occurred if the item of equipment did not experience the outage.~~

~~but excludes any outage deemed not to be a Consequential Outage in accordance with clause 3.21.10.~~

3.21.2A. An outage does not occur in respect of a Constrained Access Facility for the purposes of these WEM Rules where the Constrained Access Facility is dispatched in accordance with a Network Control Service Contract and these WEM Rules.

New clause 3.21.2B identifies circumstances in which the period of a Consequential Outage may extend beyond the period of the outage that caused the Consequential Outage.

3.21.2B. To avoid doubt, the period of a Consequential Outage may include any period immediately following the outage causing the Consequential Outage that is needed to return the capacity or capability of the Outage Facility that is the subject of the Consequential Outage to service in accordance with the Outage Facility's Equipment Limits.

3.21.3. AEMO must keep a record of all Forced Outages and Consequential Outages of which it ~~is~~ becomes aware.

Clause 3.21.4 has been revised to:

- explicitly distinguish between the initial notification of a Forced Outage or Consequential Outage to AEMO, using mechanisms specified by AEMO but likely to involve phone calls to the Control Room, and the requirements to report/request outages in AEMO's outage management system, which are covered in other clauses;
- require a Rule Participant to notify AEMO if it is aware that it is going to suffer a Forced Outage from a specific time in the future (e.g. if it is not going to be able to return from a Planned Outage on time); and
- move the list of information to be provided to AEMO to new clause 3.21.4A.

~~3.21.4. If a Facility or item of equipment that is on the list described in clause 3.18.2 or a Facility or generation system to which clause 3.18.2A relates suffers a Forced Outage or Consequential Outage, then the relevant Market Participant or Network Operator must inform AEMO of the outage as soon as practicable. Information provided to AEMO must include:~~

~~(a) the time the outage commenced;~~

- ~~(b) an estimate of the time the outage is expected to end;~~
- ~~(c) the cause of the outage;~~
- ~~(d) the Facility or item of equipment or Facilities or items of equipment affected; and~~
- ~~(e) for each affected Facility or item of equipment, the expected quantity of any de-rating by Trading Interval, where, if the Facility is a generating system, this quantity is to be submitted in accordance with clause 3.21.5.~~

3.21.4. If a Market Participant or Network Operator becomes aware that its Outage Facility:

- (a) has suffered a Forced Outage;
- (b) has suffered an outage that the Market Participant or Network Operator considers is a Consequential Outage; or
- (c) will suffer a Forced Outage from a specific time in the future,

then the Market Participant or Network Operator must notify AEMO and provide the information specified in clause 3.21.4A as soon as practicable, in the manner prescribed in the WEM Procedure specified in clause 3.21.17.

New clause 3.21.4A lists the information that must be provided to AEMO under clause 3.21.4 and, for Forced Outages, reported in AEMO's outage management system (the information requirements for a Consequential Outage request are covered separately in new clause 3.21.11). The current list in clause 3.21.4 has been updated to:

- reflect that the outage may not have commenced at the time of the notification;
- simplify the drafting by removing the references to multiple Outage Facilities; and
- limit the reference to clause 3.21.5 to Scheduled Generators and Non-Scheduled Generators, because clause 3.21.5 does not cover de-ratings of other generating systems.

3.21.4A. The information a Market Participant or Network Operator must provide to AEMO under clause 3.21.4 is:

- (a) the date and time the outage commenced or is expected to commence (as applicable);
- (b) the date and time the outage ended or is expected to end (as applicable);
- (c) the cause of the outage;
- (d) the identity of the Outage Facility de-rated as a result of the outage; and
- (e) the expected quantity of any de-rating by Trading Interval, which must be submitted in accordance with clause 3.21.5 where the Facility is a Scheduled Generator or Non-Scheduled Generator.

New clause 3.21.4B requires a Rule Participant to keep AEMO up to date about any material changes to the information previously provided regarding a Forced Outage or Consequential Outage. As for clause 3.21.4, the manner of providing this information is determined by AEMO and might vary depending on the Outage Facility type.

3.21.4B. Where a Market Participant or Network Operator has informed AEMO of a Forced Outage or Consequential Outage under clause 3.21.4, the Market Participant or Network Operator must inform AEMO of any material change to the information provided as soon as practicable after becoming aware of that change, in the manner prescribed in the WEM Procedure specified in clause 3.21.17.

Clause 3.21.5 has been amended to specify the proposed requirements for reporting outage quantities for Scheduled Generators and Non-Scheduled Generators. The new subordinate clauses:

- specify the maximum quantity from which de-ratings are reported (i.e. the “sent out capacity” specified for the Facility under Appendix 1(b)(iii) or Appendix 1(e)(iiiA) as applicable);
- specify the temperature to be assumed when determining the MW reduction in capacity;
- clarify how the quantity of de-rating should be reported where the reduction in capacity varied during the Trading Interval (e.g. if a generator was affected by a Network Forced Outage in the middle of a Trading Interval); and
- clarify how outage quantities should be reported for an Intermittent Generator with a nameplate capacity that exceeds its sent out capacity.

3.21.5. The quantity of de-rating for an outage notification submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator is the MW reduction in capacity from the relevant Facility’s maximum sent out capacity ~~measured on a sent out basis at 41 degrees Celsius where the maximum capacity is as found in the Standing Data file for Temperature Dependence provided under Appendix 1(b) iv and converted to a sent out basis at 41 degrees Celsius. The remaining capacity, determined as the maximum capacity minus the notified outage, must be available to AEMO for dispatch., adjusted to account for any previous outage notifications for concurrent outages of the Facility. When calculating the quantity of de-rating for an outage notification to be submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator:~~

- the sent out capacity of the Facility is the quantity specified for the Facility under Appendix 1(b)(iii) or Appendix 1(e)(iiiA) as applicable;
- the MW reduction in capacity must be measured assuming the temperature associated with the sent out capacity of the Facility;
- if the reduction in capacity varies during a Trading Interval, then the quantity of de-rating for the Trading Interval is measured as the average MW reduction in capacity over the duration of the Trading Interval; and

- (d) if the outage notification is in respect of an outage for an Intermittent Generator with a nameplate capacity (as specified for the Facility under Appendix 1(e)(ii)) exceeding its sent out capacity, and the Intermittent Generator remains or will remain capable of achieving its sent out capacity throughout the outage period, then the quantity of de-rating for the outage is deemed to be zero.

New clause 3.21.5A clarifies how outage quantities must be determined for Scheduled Generators that fail to comply with clause 7.10 1 due to a Forced Outage or Consequential Outage.

3.21.5A. A quantity of de-rating determined for a Scheduled Generator in accordance with clause 3.21.5 is deemed to satisfy the requirement in clause 7.10.2(c)(ii) if, and only if, the quantity is determined using the assumption that at all times throughout the relevant Trading Interval, the capacity of the Scheduled Generator that was not subject to an outage was equal to the Scheduled Generator's actual level of sent out generation.

Clause 3.21.6 has been amended to:

- clearly distinguish capacity-adjusted outage quantities from unadjusted outage quantities;
- restrict the calculation of capacity-adjusted outage quantities to Scheduled Generators; and
- implement the proposed changes to the calculations.

~~3.21.6.—The following will apply for the purposes of clauses 7.3.4 and 7.13.1A (b):~~

- ~~(a) —outage data will be entered by Market Participants in AEMO's computer interface system on a sent out basis at 15 degrees Celsius. AEMO will convert the outage data to a sent out basis at 41 degrees Celsius by multiplying the outage quantity at 15 degrees Celsius by the ratio of the maximum capacity at 41 degrees Celsius to the maximum capacity at 15 degrees Celsius for the Facility as found in the Standing Data file for temperature dependence provided under Appendix 1(b) iv on a generated basis for that facility. Market Participants will submit the outage data at 41 degrees Celsius as displayed by AEMO's computer interface system;~~
- ~~(b) —AEMO will calculate the Forced Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~
- ~~i —zero and~~
 - ~~ii —the sum of all Forced Outages notified for that Facility minus the difference of the Facility maximum capacity and its Reserve Capacity Obligation Quantity;~~
- ~~(c) —AEMO will calculate the Planned Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~
- ~~i. —zero and~~

- ii. ~~the sum of all Planned Outages minus the greater of:

 - 1. ~~zero and~~
 - 2. ~~the maximum capacity of the Facility minus its Reserve Capacity Obligation Quantity minus the sum of all Forced Outages notified for the Facility before the adjustment in (b) above is made by AEMO; and~~~~
- (d) ~~AEMO will calculate the Consequential Outage (on a sent out basis at 41 degrees Celsius) for a Facility in a Trading Interval as the greater of:~~
- i. ~~zero and~~
 - ii. ~~the sum of all Consequential Outages minus the greater of:

 - 1. ~~zero and~~
 - 2. ~~the maximum capacity of the Facility minus its Reserve Capacity Obligation Quantity minus the sum of all Forced Outages and the sum of all Planned Outages notified for the Facility before the adjustments in (b) and (c) above are made by AEMO;~~~~
- (e) ~~[Blank]~~
- (f) ~~the maximum capacity used in this clause is the value defined in clause 3.21.5.~~

3.21.6. For a Scheduled Generator, for a Trading Interval:

- (a) the Capacity-Adjusted Forced Outage Quantity is:

$$CAFO = \max(0, UFO \times TAF - (SOC \times TAF - DEF_RCOQ))$$
- (b) the Capacity-Adjusted Planned Outage Quantity is:

$$CAPO = \max(0, UPO \times TAF - \max(0, SOC \times TAF - DEF_RCOQ - UFO \times TAF))$$
- (c) the Capacity-Adjusted Consequential Outage Quantity is:

$$CACO = \max(0, UCO \times TAF - \max(0, SOC \times TAF - DEF_RCOQ - UFO \times TAF - UPO \times TAF))$$

where:

UFO is the Unadjusted Forced Outage Quantity for the Scheduled Generator for the Trading Interval;

TAF is the temperature adjustment factor determined by AEMO for the Scheduled Generator for the Trading Interval in accordance with clause 3.21.6A;

SOC is the sent out capacity of the Scheduled Generator specified under Appendix 1(b)(iii) for the Trading Interval;

DEF_RCOQ is the Reserve Capacity Obligation Quantity that would apply to the Scheduled Generator in the Trading Interval assuming that the

Scheduled Generator was not subject to an Outage or an approved Commissioning Test in the Trading Interval;

UPO is the Unadjusted Planned Outage Quantity for the Scheduled Generator for the Trading Interval; and

UCO is the Unadjusted Consequential Outage Quantity for the Scheduled Generator for the Trading Interval.

New clause 3.21.6A specifies how AEMO must determine the temperature adjustment factors used in the capacity-adjusted outage quantity calculations.

3.21.6A. AEMO must determine the temperature adjustment factor (“TAF”) that is required in the calculations under clause 3.21.6 for a Scheduled Generator for a Trading Interval:

(a) if requested to do so by the relevant Market Participant under clause 3.21.6B, as:

$$\text{TAF} = \text{MSOC}_{41} / \text{SOC}$$

where:

MSOC₄₁ is the maximum sent out capacity of the Scheduled Generator at an ambient temperature of 41 degrees Celsius, as provided by the Market Participant to AEMO and used by AEMO for the purposes of Reserve Capacity Testing for the applicable Capacity Year; and

SOC is the sent out capacity of the Scheduled Generator specified under Appendix 1(b)(iii) for the Trading Interval;

and

(b) in all other circumstances as:

$$\text{TAF} = \text{AG}_{41} / \text{AG}_{15}$$

where:

AG₄₁ is the maximum capacity of the Scheduled Generator at 41 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator; and

AG₁₅ is the maximum capacity of the Scheduled Generator at 15 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator.

New clause 3.21.6B allows a Market Participant to request AEMO to use the calculation specified in clause 3.21.6A(a) to determine temperature adjustment factors for its Scheduled Generator.

3.21.6B. A Market Participant may, by notice in writing to AEMO, request that AEMO determine the temperature adjustment factor required in the calculations under clause 3.21.6 for its Scheduled Generator for Trading Intervals in which the Scheduled Generator holds Capacity Credits using the calculation specified in clause 3.21.6A(a).

Clause 3.21.7 has been amended to:

- remove the obligations relating to Consequential Outages (which have been moved to new clause 3.21.10);
- clarify that the obligation relates to the reporting of Forced Outages in AEMO's outage management system (currently SMMITS);
- distinguish between the obligation to provide 'operational' updates to AEMO under new clause 3.21.4B and the obligation to formally report a Forced Outage in AEMO's outage management system; and
- clarify the timing requirement in respect of each affected Trading Day.

~~3.21.7—Notwithstanding the requirements of clause 3.21.4 that a relevant Market Participant or Network Operator must inform AEMO of a Forced Outage or Consequential Outage as soon as practicable, a Market Participant or Network Operator must provide full and final details of the relevant Planned Outage, Forced Outage or Consequential Outage to AEMO no later than fifteen calendar days following the Trading Day.~~

3.21.7. Notwithstanding any prior obligations under clauses 3.21.4 and 3.21.4B to notify and provide information to AEMO, a Market Participant or Network Operator must report and provide full and final details of the information specified in clause 3.21.4A for a Forced Outage of its Outage Facility in AEMO's outage management system, in respect of each affected Trading Day, by the end of the day that is 15 calendar days after the day on which the affected Trading Day ends.

Clauses 3.21.8 to 3.21.11 have been replaced with new clauses 3.21.8 to 3.21.16.

~~3.21.8—If a Market Participant considers that one of its Facilities has suffered a Consequential Outage then the Market Participant may provide AEMO with a notice confirming details of the Consequential Outage no later than 15 calendar days following the Trading Day on which the Consequential Outage commenced. The notice must:~~

- ~~(a)—be signed by an Authorised Officer of the Market Participant;~~
- ~~(b)—confirm that a Consequential Outage has occurred; and~~
- ~~(c)—provide details (to the best of its knowledge) of the events which resulted in the Consequential Outage.~~

~~3.21.9. In its determination of a Consequential Outage under clause 3.21.2, AEMO must accept the information provided by a Market Participant under clause 3.21.8 unless the information is inconsistent with other information held by AEMO.~~

~~3.21.10 If a Market Participant informs AEMO of a Consequential Outage under clause 3.21.4, but does not provide AEMO with a notice in accordance with clause 3.21.8, then the outage will be deemed not to be a Consequential Outage and AEMO must not include the outage as a Consequential Outage in the schedule provided to AEMO in accordance with clause 7.13.1A(b).~~

~~3.21.11 AEMO must retain the notices it receives under clause 3.21.8.~~

New clauses 3.21.8 and 3.21.9 allow AEMO to set tighter deadlines for the reporting of Forced Outages for Scheduled Generators if AEMO considers it necessary to allow it to monitor whether a Market Participant's Trading Margin has fallen below zero.

3.21.8. AEMO may, by written notice to a Market Participant, amend the timeframe prescribed in clause 3.21.7 for a specified period for a Scheduled Generator if AEMO considers that it requires more timely information in respect of Forced Outages from the Market Participant to determine whether the Market Participant's Trading Margin is less than zero.

3.21.9. If AEMO amends the timeframes prescribed in clause 3.21.7 under clause 3.21.8, the Market Participant is not required to comply with the timeframes in clause 3.21.7 for the period specified in the notice and must instead comply with the timeframes set under clause 3.21.8.

New clause 3.21.10 allows a Rule Participant to submit a request for a Consequential Outage.

3.21.10. Subject to clause 3.21.16(a), if a Market Participant or Network Operator considers that its Outage Facility has suffered a Consequential Outage then it may submit a request for a Consequential Outage to AEMO.

New clause 3.21.11 lists the information that must be provided in a Consequential Outage request.

3.21.11. The information provided in a request submitted under clause 3.21.10 must include:

- (a) the date and time the outage commenced or is expected to commence (as applicable);
- (b) the date and time the outage ended or is expected to end (as applicable);
- (c) the cause of the outage;
- (d) the Outage Facility de-rated as a result of the outage; and

- (e) the expected quantity of any de-rating by Trading Interval, which must be submitted in accordance with clause 3.21.5 where the Facility is a Scheduled Generator or Non-Scheduled Generator.

New clause 3.21.12 clarifies that a submitted Consequential Outage request will be deemed to be a declaration from an Authorised Officer of the Rule Participant that the Consequential Outage has occurred.

3.21.12. Where a Market Participant or Network Operator submits a request for a Consequential Outage under clause 3.21.10, or revises such a request under clause 3.21.13(a), and that request (or revised request) complies with clause 3.21.11, then the request (or revised request) will be deemed to constitute a declaration by an Authorised Officer of the Market Participant or Network Operator that the Consequential Outage has occurred.

New clause 3.21.13 requires a Rule Participant to update a Consequential Outage request if it becomes aware that the information contained in the request is inaccurate.

3.21.13. Subject to clause 3.21.16(a), if a Market Participant or Network Operator submits a request for a Consequential Outage and subsequently becomes aware that the information provided in the request is inaccurate, then the Market Participant or Network Operator must, as appropriate:

- (a) revise the request to update the information; or
(b) withdraw the request,
as soon as practicable.

New clauses 3.21.14 and 3.21.15 set out AEMO's obligations and powers in relation to assessing Consequential Outage requests.

3.21.14. Subject to clause 3.21.16(b), AEMO:

- (a) must approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator, including an updated request, and inform the Market Participant or Network Operator of its decision as soon as practicable after the request is submitted;
(b) must accept the information provided in a request for a Consequential Outage as accurate unless the information is inconsistent with other information held by AEMO; and
(c) may reject a previously approved request for a Consequential Outage if AEMO considers that the original determination was based on incorrect information, or has been superseded by new or updated information.

3.21.15. If AEMO rejects a request for a Consequential Outage under clause 3.21.14 then it:

- (a) must inform the relevant Market Participant or Network Operator of the reasons for its decision as soon as practicable; and
- (b) may deem the request for a Consequential Outage to be a report of a Forced Outage.

New clause 3.21.16 sets out the absolute deadlines for making changes to Consequential Outage details in AEMO's outage management system.

3.21.16. Notwithstanding any other provision of this section 3.21:

- (a) a Market Participant or Network Operator must not submit or revise a request for a Consequential Outage in respect of a Trading Day after the end of the day that is 15 calendar days after the day on which the Trading Day ends; and
- (b) AEMO must make its final decision on whether to approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator in respect of a Trading Day before the time that AEMO must record the relevant data for the Trading Day in the schedule required under clause 7.13.1A(b).

Clause 3.21.12 has been renumbered to clause 3.21.17.

3.21.1~~27~~. AEMO must document the procedure to be followed in determining and reporting Forced Outages and Consequential Outages in a WEM Procedure.

...

4.11. Setting Certified Reserve Capacity

Clause 4.11.1 has been amended to update the reference to the WEM Procedure (clause 4.11.1(h)) and improve consistency with the drafting conventions of the WEM Rules.

4.11.1. Subject to clauses 4.11.7 and 4.11.12, AEMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle for which an application for Certified Reserve Capacity has been submitted in accordance with ~~clause section~~ 4.10:

- (a) subject to clause 4.11.2, the Certified Reserve Capacity for a Scheduled Generator for a Reserve Capacity Cycle must not exceed AEMO's reasonable expectation of the amount of capacity likely to be available, after netting off capacity required to serve Intermittent Loads, embedded loads and Parasitic Loads, for Peak Trading Intervals on Business Days in the period from:
 - i. the start of December for Reserve Capacity Cycles up to and including 2009; or
 - ii. the Trading Day starting on 1 October for Reserve Capacity Cycles from 2010 onwards,

- in Year 3 of the Reserve Capacity Cycle to the end of July in Year 4 of the Reserve Capacity Cycle, assuming an ambient temperature of 41°C;
- (b) where the Facility is a generation system (other than an Intermittent Generator), the Certified Reserve Capacity must not exceed the sum of the capacities specified in clauses 4.10.1(e)(ii) and 4.10.1(e)(iii);
 - (bA) where the Facility is a generation system, the Certified Reserve Capacity must not exceed:
 - i. where that Facility is a Constrained Access Facility, the Constrained Access Entitlement as at the date and time specified in clause 4.1.12(b); or
 - ii. otherwise, the level of unconstrained network access as referred to in clause 4.10.1(bA)(iii);
 - (bB) where two or more generation Facilities share a Declared Sent Out Capacity, the total quantity of Certified Reserve Capacity assigned to those Facilities must not exceed the Declared Sent Out Capacity;
 - (c) AEMO must not assign Certified Reserve Capacity to a Facility for a Reserve Capacity Cycle if:
 - i. for Reserve Capacity Cycles up to and including 2009 that Facility is not operational or is not scheduled to commence operation for the first time so as to meet its Reserve Capacity Obligations by 30 November of Year 3 of that Reserve Capacity Cycle;
 - ii. for Reserve Capacity Cycles from 2010 onwards that Facility is not operational or is not scheduled to commence operation for the first time so as to meet its Reserve Capacity Obligations by 1 October of Year 3 of that Reserve Capacity Cycle;
 - iii. that Facility will cease operation permanently, and hence cease to meet Reserve Capacity Obligations, from a time earlier than 1 August of Year 4 of that Reserve Capacity Cycle;
 - iv. that Facility already has Capacity Credits assigned to it under [clause section](#) 4.28C for the Reserve Capacity Cycle;
 - v. that Facility is an Interruptible Load and, based on applications accepted under clauses 2.29.5D and 2.29.5K (as applicable), the Facility will be associated with a Demand Side Programme for any period when Reserve Capacity Obligations would apply for the Facility for the Reserve Capacity Cycle; or
 - vi. that Facility is a Demand Side Programme and it has submitted under clause 4.10.1(f)(v) a minimum notice period for dispatch under clause 7.6.1C(e) of more than two hours.
 - (d) [Blank]
 - (e) [Blank]

- (f) AEMO must not assign Certified Reserve Capacity to a Facility that is not expected to be a Registered Facility by the time its Reserve Capacity Obligations for the Reserve Capacity Cycle would take effect;
- (g) in respect of a Facility that will be subject to a Network Control Service Contract, AEMO must not assign Certified Reserve Capacity in excess of:
 - i. where that Facility is a Constrained Access Facility, the Constrained Access Entitlement as at the date and time specified in clause 4.1.12(b); or
 - ii. otherwise, the capacity that AEMO believes that Facility can usefully contribute given its location and any network constraints that are likely to occur;
- (h) subject to clauses 4.11.1B and 4.11.1C, AEMO may decide not to assign any Certified Reserve Capacity to a Facility, or to assign a lesser quantity of Certified Reserve Capacity to a Facility than it would otherwise assign in accordance with this clause 4.11.1, if:
 - i. the Facility has been in Commercial Operation for at least 36 months and has had a Forced Outage rate or a combined Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D, over the preceding 36 months; or
 - ii. the Facility has been in Commercial Operation for less than 36 months, or is yet to commence Commercial Operation, and AEMO has cause to believe that over the first 36 months of Commercial Operation the Facility is likely to have a Forced Outage rate or a combined Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D,

where the Planned Outage rate and the Forced Outage rate for a Facility for a period are calculated in accordance with the WEM Procedure specified in clause ~~3.21.12~~ 3.21.17;

- (i) the Certified Reserve Capacity assigned to a Facility is to be expressed to a precision of 0.001 MW;
- (j) the Certified Reserve Capacity for a Demand Side Programme for a Reserve Capacity Cycle must not exceed either of the following limits:
 - i. AEMO's reasonable expectation of the amount of capacity likely to be available from that Facility during the periods specified in clause 4.10.1(f)(vi), after netting off capacity required to serve Minimum Consumption for each of the Facility's Associated Loads, from the Trading Day starting on 1 October in Year 3 of the Reserve Capacity Cycle to the end of July in Year 4 of the Reserve Capacity Cycle; and

- ii. AEMO’s reasonable expectation of the amount by which the Facility could reduce its consumption, measured as a decrease from the Facility’s Relevant Demand, by the end of one Trading Interval in response to a Dispatch Instruction requiring it to reduce consumption from the beginning of the Trading Interval at the ramp rate proposed for the Facility under clause 4.10.1(f)(vii), for which purpose AEMO may have regard to the ramp rate proposed under clause 4.10.1(f)(vii) and any other information AEMO considers relevant.

...

Clause 4.12.6 has been amended to clarify what outage quantities are to be considered in the setting of the RCOQ.

- 4.12.6. Subject to clause 4.12.7, any initial Reserve Capacity Obligation Quantity set in accordance with clauses 4.12.4, 4.12.5, 4.28B.4, or 4.28C.11 is to be reduced once the Reserve Capacity Obligations take effect, as follows:
- (a) if the aggregate MW equivalent to the quantity of Capacity Credits (as modified from time to time under the WEM Rules) for a Facility is less than the Certified Reserve Capacity for that Facility at any time (for example as a result of the application of clause 4.20.1, clause 4.20.14, clause 4.25.4 or clause 4.25.6), then AEMO must reduce the Reserve Capacity Obligation Quantity to reflect the amount by which the aggregate Capacity Credits fall short of the Certified Reserve Capacity;
 - (b) during Trading Intervals where there is a ~~Consequential Outage or a Planned Outage~~ Capacity-Adjusted Consequential Outage Quantity or Capacity-Adjusted Planned Outage Quantity in respect of a Facility in the schedule maintained by AEMO in accordance with clause 7.3.4, AEMO must reduce the Reserve Capacity Obligation Quantity for that Facility and that Trading Interval, after taking into account adjustments in accordance with clause 4.12.6(a), ~~to reflect the amount of capacity unavailable due to that outage by that~~ Capacity-Adjusted Consequential Outage Quantity or Capacity-Adjusted Planned Outage Quantity; and
 - (c) if the generating system, being a generating system referred to in clause 3.21A.2(a), is subject to a Commissioning Test Plan approved by AEMO during a Trading Interval, then AEMO must reduce the Reserve Capacity Obligation Quantity for that Facility to zero during that Trading Interval.

...

Clause 4.25.3A has been amended to:

- use the correct defined term “Opportunistic Maintenance”; and
- improve consistency with the drafting style of the WEM Rules.

4.25.3A. AEMO must not subject a Facility to a Reserve Capacity Test if:

- (a) that Facility is undergoing a Scheduled Outage or Opportunistic ~~Outage~~ Maintenance which has been approved in accordance with section 3.19, ~~or;~~
- (b) the relevant Market Participant has advised AEMO of a Forced Outage or Consequential Outage for that Facility in accordance with clause 3.21.4; or
- (c) that Facility is undergoing a Commissioning Test approved in accordance with section 3.21A.

...

Clause 4.25.9 has been amended to ensure that a Market Participant does not fail a Reserve Capacity Test because of a Consequential Outage.

4.25.9. In conducting a Reserve Capacity Test, AEMO must:

- (a) subject to clauses 4.25.9(b), 4.25.9(c) and 4.25.9(d), endeavour to conduct the Reserve Capacity Test without warning;
- (b) allow sufficient time for the Market Participant to schedule fuel that it is not required under these WEM Rules to be stored on-site;
- (c) allow sufficient time for switching a Facility from one fuel to an alternative fuel if operation using the alternative fuel is being tested;
- (d) in the case of an Interruptible Load or a Demand Side Programme, give at least as much notice as is specified under clause 4.10.1(f)(v) to allow for arrangements to be made for the Facility to be triggered;
- (e) ~~[Blank]~~ deem the Reserve Capacity Test to be cancelled and discard the results if the Facility suffers a Consequential Outage during the test period;
- (f) maintain adequate records of the Reserve Capacity Test to allow independent verification of the test results; and
- (g) [Blank]
- (h) issue an Operating Instruction to increase the Facility's output or decrease its consumption to a level specified by, or referred to in, the Operating Instruction.

...

Clause 4.26.1 has been amended to clarify which outage quantities are to be used when calculating the refund.

4.26.1. If a Market Participant holding Capacity Credits associated with a Facility fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to AEMO calculated in accordance with the following provisions.

- (a) The Trading Interval Refund Rate for a Facility f in the Trading Interval t is determined as follows:

$$\text{Trading Interval Refund Rate}(f,t)=\text{RF}(f,t) \times Y(f,t)$$

where:

- i. Trading Interval Refund Rate (f,t) is the Trading Interval Refund Rate for a Facility f in the Trading Interval t;
 - ii. RF(f,t) is the refund factor for a Facility f in the Trading Interval t and is calculated in accordance with clause 4.26.1(c); and
 - iii. Y is the per interval capacity price associated with a Facility f in the Trading Interval t and is determined in accordance with clause 4.26.1(b).
- (b) For a Facility f in the Trading Interval t, Y is determined as follows:
- i. where Facility f is a Non-Scheduled Generator, Y equals zero if AEMO has determined that in Trading Interval t the Non-Scheduled Generator is in Commercial Operation under clause 4.13.10B and one of the following applies:
 1. the Non-Scheduled Generator has operated at a level equivalent to its Required Level in at least two Trading Intervals, adjusted to 100 percent of the level of Capacity Credits currently held; or
 2. the Market Participant has provided AEMO with a report under clause 4.13.10C specifying that the Facility can operate at a level equivalent to its Required Level, adjusted to 100 percent of the level of Capacity Credits currently held;
 - ii. where Facility f is a Demand Side Programme, Y equals the DSM Reserve Capacity Price divided by 400;
 - iiA. where Facility f is an Intermittent Load, Y equals the Reserve Capacity Price divided by 12 then divided by the number of Trading Intervals in the relevant Trading Month the Trading Interval t falls in; and
 - iii. with the exception of clauses 4.26.1(b)(i), 4.26.1(b)(ii) and 4.26.1(b)(iiA), for a Facility f in the Trading Interval t, Y equals:
 1. the Facility Monthly Reserve Capacity Price; divided by
 2. the number of Trading Intervals in the relevant Trading Month the Trading Interval t falls in.
- (c) The refund factor RF(f,t) for a Facility f in the Trading Interval t is the lesser of:
- i. six; and
 - ii. the greater of the dynamic refund factor RF dynamic(t) as determined under clause 4.26.1(d) and the minimum refund factor

RF floor(f,t) as determined under clauses 4.26.1(f) or 4.26.1(g) as appropriate.

- (d) The dynamic refund factor RF dynamic(t) in the Trading Interval t is determined as follows:

$$\text{RF dynamic}(t) = 11.75 - \left(\frac{5.75}{750} \right) \times \sum_{f \in F} \text{Spare}(f,t)$$

where:

- i. F is the set of Facilities for which Market Participants hold Capacity Credits in the Trading Interval t and f is a Facility within that set; and
 - ii. Spare(f,t) is the available capacity related to the Capacity Credits of the Facility f, which is not dispatched in the Trading Interval t determined in accordance with clause 4.26.1(e).
- (e) For a Facility f in the Trading Interval t, Spare(f,t) is determined as follows:

- i. where Facility f is a Scheduled Generator, the greater of zero and:
 1. the MW quantity of Capacity Credits for Facility f in Trading Interval t; less
 2. ~~the MW quantity of Outage~~ the sum of all Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Facility f ~~in for~~ Trading Interval t ~~as recorded in the schedule maintained~~ under clause 7.13.1A(b); less
 3. the Sent Out Metered Schedule for Facility f in Trading Interval t multiplied by two so as to be a MW quantity;
- ii. where Facility f is a Non-Scheduled Generator, zero; and
- iii. where Facility f is a Demand Side Programme which has a Reserve Capacity Obligation Quantity in the Trading Interval t, Spare(f,t) is equal to:

$$\max\{0, \min\left(\text{RCOQ}(f,t), (\text{DSP Load}(f,t) - \text{DSP MinLoad}(f,t))\right)\}$$

where:

1. [Blank]
2. RCOQ(f,t) is the Reserve Capacity Obligation for the Demand Side Programme f in the Trading Interval t;
3. DSP Load(f,t) is the Demand Side Programme Load for the Demand Side Programme f in the Trading Interval t as determined under clause 6.16.2 multiplied by two so as to be a MW quantity; and

4. DSP MinLoad(f,t) is the sum of the Minimum Consumption of each Associated Load of the Demand Side Programme f in MW in the Trading Interval t.
- (f) Subject to clause 4.26.1(g), the minimum refund factor RF floor(f,t) in the Trading Interval t is determined as follows:
- $$RF \text{ floor}(f,t) = 1 - 0.75 \times \text{Dispatchable}(f,t)$$
- where:
- i. Dispatchable(f,t) for a Facility f in the Trading Interval t is its portion of capacity which is not subject to a Forced Outage over the 4320 previous Trading Intervals pt prior to and including the Trading Interval t and is determined as follows:
- $$\text{Dispatchable}(f,t) = 1 - \left(\frac{\sum_{pt \in PT} FO(f,pt)}{\sum_{pt \in PT} CC(f,pt)} \right)$$
- where:
1. PT is the set of 4320 Trading Intervals immediately prior to and including the Trading Interval t and pt is a Trading Interval within that set;
 2. FO(f,pt) is the ~~quantity of Forced Outage Capacity-Adjusted Forced Outage Quantity~~ for a Facility f in the Trading Interval pt, as recorded in the schedule maintained under accordance with clause 7.13.1A(b); and
 3. CC(f,pt) is the number of Capacity Credits a Market Participant holds for Facility f in the Trading Interval pt; and
- (g) RF floor(f,t) is equal to one in the Trading Interval t for a Facility f to which any of the following applies:
- i. the Facility is a Demand Side Programme;
 - ii. [Blank]
 - iii. the Facility is an Intermittent Generator to which clauses 4.26.1A(a)(ii)(2) or 4.26.1A(a)(ii)(3) applies; or
 - iv. the Facility is a Scheduled or Non-Scheduled Generator to which clauses 4.26.1A(a)(ii)(4) or 4.26.1A(a)(ii)(5) applies.

Clause 4.26.1A has been amended to:

- correct a manifest error in clause 4.26.1A(a), which currently fails to specify a value for the Reserve Capacity Deficit in the event that none of the specified conditions apply;
- clarify which outage quantities are to be used in when calculating the Reserve Capacity Deficit; and
- improve consistency with the drafting conventions of the WEM Rules.

4.26.1A. AEMO must calculate the Reserve Capacity Deficit refund for each Facility (“**Facility Reserve Capacity Deficit Refund**”) for each Trading Interval t as the lesser ~~of~~ of:

- (a) the product ~~of~~ of:
- i. the Trading Interval Refund Rate applicable to the Facility in Trading Interval t; and
 - ii. the Reserve Capacity Deficit in Trading Interval t,

where the Reserve Capacity Deficit for a Facility is equal to whichever of the following ~~applies~~ applies, or to zero if none of the following apply:

1. ~~if the Facility is required to have submitted a Forced Outage under clause 3.21.4, or is a Scheduled Generator that has taken a Refund Payable Planned Outage, the total Forced Outage and Refund Payable Planned Outage in that Trading Interval measured in MW if the Capacity-Adjusted Forced Outage Quantity or Refund Payable Planned Outage for the Facility for Trading Interval t exceeds zero, the sum of the Capacity-Adjusted Forced Outage Quantity and Refund Payable Planned Outage for the Facility for Trading Interval t;~~
2. if the Facility is an Intermittent Generator which is not considered by AEMO to have been in Commercial Operation for the purposes of clause 4.26.1(b), the number of Capacity Credits associated with the relevant Intermittent Generator;
3. if the Facility is an Intermittent Generator which is considered by AEMO to have been in Commercial Operation for the purposes of clause 4.26.1(b), but for which Y does not equal zero in clause 4.26.1(b), the minimum ~~of~~ of:
 - i. $RL - (2 \times Max2)$; or
 - ii. $RL - A$

~~where~~ where:

RL is the Required Level, adjusted to 100 percent of the level of Capacity Credits currently held;

Max2 is the second highest value of the output for the Facility (MWh) achieved during a Trading Interval during the Trading Month the Trading Interval t falls in, as measured in Meter Data Submissions received by AEMO in accordance with section 8.4, that has been achieved since the date AEMO determined the Facility to be in Commercial Operation, where this value must be set equal to or greater than the Max2 applied by AEMO for the previous Trading Month; and

A is the level of output (in MW) detailed in the most recent report provided by the Market Participant for the Facility under clause 4.13.10C,

4. if, from the Trading Day commencing on 30 November of Year 3 for Reserve Capacity Cycles up to and including 2009 or 1 October of Year 3 for Reserve Capacity Cycles from 2010 onwards, the Facility is undergoing an approved Commissioning Test and, for the purposes of permission sought under clause 3.21A.2, is a new generating system referred to in clause 3.21A.2(b), the number of Capacity Credits associated with the relevant Facility;
5. if, from the Trading Day commencing on 30 November of Year 3 for Reserve Capacity Cycles up to and including 2009 or 1 October of Year 3 for Reserve Capacity Cycles from 2010 onwards, the Facility is not yet undergoing an approved Commissioning Test and, for the purposes of permission sought under clause 3.21A.2, is a new generating system referred to in clause 3.21A.2(b), the number of Capacity Credits associated with the relevant Facility; or
6. if the Facility is a Demand Side ~~Programme~~ Programme:
 $\max(0, \text{RCOQ} - \max(0, (\text{RD} - \text{MinLoad})))$

~~where~~ where:

RCOQ is the Reserve Capacity Obligation Quantity determined for the Facility under clause 4.12.4;

RD is the Relevant Demand for the Facility determined in accordance with clause 4.26.2CA; and

MinLoad is the sum of the MW quantities of Minimum Consumption for the Facility's Associated Loads; and

- (b) the Maximum Facility Refund for the Facility in the relevant Capacity Year, less all Facility Reserve Capacity Deficit Refunds applicable to the Facility in previous Trading Intervals falling in the same Capacity Year.

4.26.1B. AEMO must calculate the Generation Reserve Capacity Deficit Refund for each Market Participant for each Trading Interval as the sum of the Facility Reserve Capacity Deficit Refunds for the Trading Interval for each Facility registered to the relevant Market Participant, excluding any registered Demand Side Programmes.

Clause 4.26.1C has been amended to clarify that Refund Exempt Planned Outages and Refund Payable Planned Outages are classifications of Capacity-Adjusted Planned Outage Quantities.

4.26.1C. Where AEMO has recorded a Capacity-Adjusted Planned Outage Quantity for a Scheduled Generator for a Trading Interval in the schedule maintained under

clause 7.13.1A(b) ~~the Planned Outage of a Scheduled Generator in a Trading Interval~~, AEMO must determine that Capacity-Adjusted Planned Outage Quantity to be:

- (a) if the Refund Exempt Planned Outage Count for the Facility, calculated over the 1000 Trading Days preceding the Trading Day in which the Trading Interval falls, is less than 8400—a Refund Exempt Planned Outage; or
- (b) otherwise—a Refund Payable Planned Outage.

4.26.1D. The Economic Regulation Authority, in consultation with AEMO, must undertake a review, to be completed by 31 December 2020 of whether the limit for the Refund Exempt Planned Outage Count referred to in clause 4.26.1C should be modified to better address the Wholesale Market Objectives. The review must include, at a minimum, an assessment of—

- (a) variations in Planned Outage rates and Forced Outage rates of Scheduled Generators since the introduction of the limit on Refund Exempt Planned Outages;
- (b) for each Scheduled Generator and each year since the introduction of the limit on Refund Exempt Planned Outages—
 - i. the number of Equivalent Planned Outage Hours for which Facility Reserve Capacity Deficit Refunds were payable; and
 - ii. the total amount of Facility Reserve Capacity Deficit Refunds associated with Refund Payable Planned Outages; and
- (c) the level of participation by Scheduled Generators in the Reserve Capacity Mechanism in each year since the introduction of the limit on Refund Exempt Planned Outages; and
- (d) changes in the mix of Scheduled Generators that have participated in the Reserve Capacity Mechanism in each year since the introduction of the limit on Refund Exempt Planned Outages.

4.26.1E. If the Economic Regulation Authority recommends changes in the review in clause 4.26.1D, the Economic Regulation Authority must submit a Rule Change Proposal to implement those changes.

Clause 4.26.2 has been amended to clarify which outage quantities are to be used in the calculation of the Net STEM Shortfall.

4.26.2. AEMO must determine the net STEM shortfall (“Net STEM Shortfall”) in Reserve Capacity supplied by each Market Participant p holding Capacity Credits associated with a generation system in each Trading Interval t as:

$$SF(p,t) = \text{Max}(\text{RCDF}(p,t), \text{RCOQ}(p,t) - A(p,t)) - \text{RCDF}(p,t)$$

where:

$$A(p,t) = \text{Min}(\text{RCOQ}(p,t), \text{CAPA}(p,t));$$

RCOQ(p,t) for Market Participant p and Trading Interval t is equal to:

- (a) the total Reserve Capacity Obligation Quantity of Market Participant p's unregistered facilities that have Reserve Capacity Obligations, excluding Loads that can be interrupted on request; plus
- (b) the sum of the product of:
 - i. the factor described in clause 4.26.2B as it applies to Market Participant p's Registered Facilities; and
 - ii. the Reserve Capacity Obligation Quantity for each Facility, for all Market Participant p's Registered Facilities, excluding Demand Side Programmes,

CAPA(p,t) for Market Participant p and Trading Interval t is:

- (c) equal to RCOQ(p,t) for a Trading Interval where the STEM Auction has been suspended by AEMO in accordance with section 6.10;
- (d) subject to clause 4.26.2(c), the sum of:
 - i. the Reserve Capacity Obligation Quantities in Trading Interval t of that Market Participant's Interruptible Loads; plus
 - ii. the MW quantity calculated by doubling that Market Participant's Net Contract Position in MWh for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - iii. the MW quantity calculated by doubling the total MWh quantity covered by the STEM Offers which were not scheduled and the STEM Bids which were scheduled in the relevant STEM Auction, determined by AEMO for that Market Participant under section 6.9 for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - iv. double the total MWh quantity to be provided as Ancillary Services as specified by AEMO in accordance with clause 6.3A.2(e)(i) for that Market Participant corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - v. the greater of zero and (BSFO(p,t)—RTFO(p,t));

$$RCDF(p, t) = RTFO(p, t) + RTNREPO(p, t);$$

$$RTNREPO(p, t) = \sum_{f \in F} \left(\text{Max}(0, \text{NREPO}(f, t) - \text{BSPO}(f, t)) \right);$$

NREPO(f,t) is the ~~total MW quantity of~~ Refund Payable Planned Outage associated with Facility f for Trading Interval t;

BSPO(f,t) is the ~~total MW quantity of~~ Capacity-Adjusted Planned Outage Quantity associated with Facility f before the STEM Auction for Trading

Interval t, as ~~determined by AEMO in accordance with clause 7.3.4~~
recorded in the schedule maintained under clause 7.3.4;

F is the set of Scheduled Generators registered to Market Participant p,
and f is a Facility within that set;

BSFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage
associated with Market Participant p before the STEM Auction for Trading
Interval t, where this is the sum over all the Market Participant's Registered
Facilities of the lesser of the Reserve Capacity Obligation Quantity of the
Facility for Trading Interval t and the ~~MW Capacity-Adjusted~~ Forced Outage
Quantity of the Facility for Trading Interval t as recorded in ~~accordance with~~
section 7.3 the schedule maintained under clause 7.3.4; and

RTFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage
associated with Market Participant p in real-time for Trading Interval t,
where this is the sum over all the Market Participant's Registered Facilities
of the lesser of the Reserve Capacity Obligation Quantity of the Facility for
Trading Interval t and the ~~MW Capacity-Adjusted~~ Forced Outage Quantity
of the Facility for Trading Interval t as recorded in ~~accordance with the~~
schedule maintained under clause 7.13.1A(b).

...

Clause 4.26.6 has been amended to:

- clarify which outage quantities are to be used in the calculation of the Facility Capacity Rebate; and
- improve consistency with the drafting conventions of the WEM Rules.

4.26.6. The Facility Capacity Rebate in Trading Interval t for Facility f, being a Scheduled Generator or a Demand Side Programme for which a Market Participant holds Capacity ~~Credits— Credits~~:

$$FCR(f, t) = \frac{CC(f, t) \times E(f, t)}{\sum_{f \in F} (CC(f, t) \times E(f, t))} \times TAR(t)$$

where—

- (a) FCR(f, t) is the Facility Capacity Rebate for Facility f in the Trading Interval t;
- (b) TAR(t) is the sum of all Trading Interval Capacity Cost Refunds for all Market Participants in Trading Interval t;
- (c) F is the set of Facilities, being Scheduled Generators or Demand Side Programmes and f is a Facility within that set;
- (d) CC(f, t) for a Facility f in a Trading Interval t is the Facility's capacity in t, which is not subject to an Outage, determined as ~~follows— follows~~:
 - i. for a Scheduled Generator, the MW value of Capacity Credits less the MW quantity of Outage sum of all Capacity-Adjusted Forced

Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Facility f for Trading Interval t in the schedule maintained-as-recorded under clause 7.13.1A(b); and

- ii. for a Demand Side Programme, the lesser ~~of~~ of:
 - 1. the Demand Side Programme Load multiplied by two so as to be a MW quantity less the sum of the Minimum Consumptions in MW for each of the Facility's Associated Loads; and
 - 2. the Demand Side Programme's Reserve Capacity Obligation Quantity in t; and
- (e) E(f, t) is the eligibility of Facility f in Trading Interval t, equal ~~to~~ to:
 - i. one for any Facility which is a Scheduled Generator and the following ~~applies~~ applies:
 - 1. the Facility has a Sent Out Metered Schedule greater than zero in any one of the 1,440 Trading Intervals prior to and including Trading Interval t;
 - 2. the sum of the Facility Reserve Capacity Deficit Refunds for Facility f, in Capacity Year y that the Trading Interval t falls in, for ~~trading intervals~~ Trading Intervals prior to and including Trading Interval t, is less than the Maximum Facility Refund for Facility f in Capacity Year y; and
 - 3. the sum of the Generation Reserve Capacity Deficit Refund in Capacity Year y that the Trading Interval t falls in, for ~~trading intervals~~ Trading Intervals prior to and including Trading Interval t, is less than the Maximum Participant Generation Refund for for the Market Participant p which the Facility is registered to, in Capacity Year y; and
 - ii. one for any Facility which is a Demand Side Programme and the following ~~applies~~ applies:
 - 1. the Facility received a Dispatch Instruction to reduce consumption in any one of the 1,440 Trading Intervals prior to and including Trading Interval t;
 - 2. the Reserve Capacity Obligation Quantity for the Demand Side Programme does not equal zero under clause 4.12.4(c); and
 - 3. the sum of the Demand Side Programme Capacity Cost Refunds for Facility f, in Capacity Year y that the Trading Interval t falls in, for trading intervals prior to and including Trading Interval t, is less than the Maximum Facility Refund for Facility f in Capacity Year y; and

- iii. zero otherwise.

...

Clause 6.3A.2 has been amended to:

- clarify which outage quantities are to be used in the calculation of the information provided to Market Participants; and
- remove the reference to Outages in clause 6.3A.2(b) because the relevant load-based Facilities are no longer required to report Outages relating to their energy consumption.

6.3A.2. By 9:00 AM on the Scheduling Day AEMO must have calculated and released to each Market Participant the following parameters to be applied by that Market Participant in forming its STEM Submissions for each Trading Interval in the Trading Day:

- (a) the Maximum Supply Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Market Participant's Scheduled Generators and Non-Scheduled Generators and assuming the use of the fuel which maximises the capacity of each Facility:
- i. ~~less an allowance for Outages the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Market Participant for that Trading Interval~~ in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2); and
 - ii. less, for each Market Participant that is a provider of Ancillary Services, the estimated Loss Factor adjusted quantity of energy, in units of MWh, that could potentially be called upon by AEMO from that Market Participant after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day,

where the Maximum Supply Capability may be higher than the actual capacity available during the Trading Interval;

- (b) the Maximum Consumption Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be consumed during a Trading Interval by that Market Participant's Non-Dispatchable Loads and Interruptible Loads based on the Standing Data maximum consumption quantities for those Facilities and Non-Dispatchable Loads, ~~less an allowance for Outages in the schedule maintained in accordance with clause 7.3.4;~~
- (c) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on Liquid Fuel only, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Scheduled

Generator or Non-Scheduled Generator less ~~an allowance for Outages the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Facility for that Trading Interval~~ in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2);

- (d) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on both Liquid Fuel and Non-Liquid Fuel, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval when run on each of Liquid Fuel and Non-Liquid Fuel based on the Standing Data of that Scheduled Generator or Non-Scheduled Generator less ~~an allowance for Outages the sum of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Facility for that Trading Interval~~ in the schedule maintained in accordance with clause 7.3.4 (where each outage quantity is Loss Factor adjusted and divided by 2); and
- (e) in the case of each Market Participant that is a provider of Ancillary Services:
 - i. the estimated Loss Factor adjusted quantity of energy, in units of MWh, that could potentially be called upon by AEMO after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day; and
 - ii. the list of Facilities that AEMO might reasonably expect to call upon to provide the energy described in clause 6.3A.2(e)(i).

Clause 6.3A.3 has been amended to clarify which outage quantities are to be used when calculating the parameters to inform Market Participant's STEM Submissions.

- 6.3A.3. By 9:05 AM on the Scheduling Day AEMO must have calculated and released to each Market Participant the following parameters for information in forming its STEM Submissions for each Trading Interval in the Trading Day:
- (a) the total quantity of Capacity Credits held by that Market Participant for the Trading Day, in units of MW;
 - (b) the estimated Loss Factor adjusted quantity of energy that could potentially be called upon by AEMO after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day, multiplied by 2, in units of MW;
 - (c) the ~~total quantity of Planned Outages and Consequential Outages~~ sum of all Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for that Market Participant for that Trading Interval in the schedule maintained in accordance with clause 7.3.4, ~~in units of MW~~;

- (d) the total quantity specified in any STEM submission Portfolio Supply Curve from that Market Participant that has been accepted by AEMO for that Trading Interval, multiplied by 2, in units of MW; and
- (e) the total quantity specified in any STEM submission Ancillary Service Declaration from that Market Participant that has been accepted by AEMO for that Trading Interval, multiplied by 2, in units of MW.

...

Clause 6.15.2(c) has been amended to correct a minor grammar issue.

6.15.2. The Minimum Theoretical Energy Schedule in a Trading Interval equals:

- (a) for a Balancing Facility which is a Scheduled Generator, the amount which is the lesser of:
 - i. the sum of:
 - ...
 - ii. where the Balancing Facility is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the Available Capacity for that Trading Interval;
- (b) for a Balancing Facility which is a Non-Scheduled Generator:
 - ...
- (c) for the Balancing Portfolio, the amount which is the lesser of:
 - i. the sum of:
 - ...
 - ii. where a Facility in the Balancing Portfolio is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the sum of the Available ~~Capacity~~ Capacities of Facilities in the Balancing Portfolio for that Trading Interval.

Clause 6.15.3 has been amended to clarify that the schedule recorded under clause 7.13.1A(b) is a schedule of Capacity-Adjusted Outage Quantities.

6.15.3 AEMO must:

- (a) calculate Maximum Theoretical Energy Schedules under clause 6.15.1 and Minimum Theoretical Energy Schedules under clause 6.15.2:
 - i. using Sent Out Metered Schedules determined using SCADA data and output estimates maintained in accordance with clause 7.13.1(cA), notwithstanding any requirement in clause 9.3.4 to use Meter Data Submissions received by AEMO; and
 - ii. as soon as practicable using applicable SCADA data maintained under clause 7.13.1(cA); and

- (b) update Maximum Theoretical Energy Schedules and Minimum Theoretical Energy Schedules calculated under clause 6.15.3(a) as soon as practicable using the schedule of ~~Outages~~ Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities maintained under clause 7.13.1A(b).

...

Clause 6.17.5A has been amended to reflect that Available Capacity is defined for each Facility in the Balancing Portfolio, rather than for the Balancing Portfolio as a whole.

6.17.5A. Subject to clause 6.17.5C, AEMO must attribute any Downwards Out of Merit Generation from the Balancing Portfolio in a Trading Interval as follows:

- (a) Portfolio Constrained Off Quantity1 (PCoffQ1) equals the lesser of:
 - i. the maximum energy less the minimum energy, if any, in MWh, which could have been dispatched down from the Balancing Portfolio's Balancing Price-Quantity Pair N, with Price N, taking into account the sum of the Available ~~Capacity of Capacities of the Facilities in~~ the Balancing Portfolio, the MW level at the start of the Trading Interval and the Portfolio Ramp Rate Limit, where N is determined from either of the following Balancing Price-Quantity Pairs or, if different, the one with the lower price:
 - 1. the Balancing Price-Quantity Pair associated with the intersection of sum of the Available ~~Capacity Capacities~~ and the quantities in all Balancing Price-Quantity Pairs summed in order of lowest to highest price; and
 - 2. the Balancing Price-Quantity Pair with a price lower than but closest to the Balancing Price; and
 - ii. the Portfolio Downwards Out of Merit Generation;

...

...

Clauses 6.17.9 and 6.17.10 have been amended to use the term "Balancing Facility Maximum Capacity" instead of "Sent Out Capacity".

6.17.9. AEMO must, other than for Facilities in the Balancing Portfolio, determine a Settlement Tolerance for each Scheduled Generator and Non-Scheduled Generator, where this Settlement Tolerance is equal to:

- (a) for a Scheduled Generator for which an applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the applicable value determined by AEMO under clause 2.13.6D, divided by two to be expressed as MWh; or

- (b) for Facilities for which no applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the lesser of:
- i. 3 MWh; and
 - ii. the greater of:
 1. 0.5 MWh; and
 2. 3% of the ~~Facility's Sent Out~~ Balancing Facility Maximum Capacity for the Balancing Facility divided by two to be expressed as MWh.

6.17.10. The Portfolio Settlement Tolerance equals the lesser of:

- (a) 3 MWh; and
- (b) 3% of the ~~Sent Out~~ Balancing Facility Maximum Capacity of the Balancing Portfolio divided by two to be expressed as MWh.

...

Clause 7.3.4 has been amended to:

- use the new terminology for capacity-adjusted outage quantities; and
- clarify that the quantities are only calculated for Scheduled Generators.

7.3.4. AEMO must prepare a schedule of ~~Planned Outages, Forced Outages and Consequential Outages for each Registered Facility~~ Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for each Scheduled Generator of which AEMO is aware at that time ~~where Outages are calculated in accordance with clause 3.21.6~~, for each Trading Interval of a Trading Day, between 8:00 AM and 8:30 AM on the Scheduling Day prior to the Trading Day.

New clause 7.3.5 specifies the assumption AEMO should make about the maximum ambient site temperature at each site when preparing an ex-ante outage schedule under clause 7.3.4.

7.3.5. ~~[Blank]~~ When preparing a schedule under clause 7.3.4, AEMO must assume that the maximum daily ambient site temperature at the site of each Scheduled Generator will not exceed 41 degrees Celsius during the relevant Trading Day.

...

7.10. Compliance with Dispatch Instructions and Operating Instructions

7.10.1. Subject to clause 7.10.2, a Market Participant must comply with the most recently issued Dispatch Instruction, Operating Instruction or Dispatch Order applicable to its Registered Facility for the Trading Interval.

Clause 7.10.2 has been amended to:

- account for the possibility that a Market Participant may notify AEMO about a Forced or Consequential Outage in advance; and
- remove the requirement for a Market Participant to report a Forced Outage if it suffers an equipment failure during an approved Commissioning Test.

7.10.2. A Market Participant is not required to comply with clause 7.10.1 if:

- (a) such compliance would endanger the safety of any person, damage equipment or breach any applicable law;
- (b) the Facility was physically unable to maintain the ramp rate specified in the Dispatch Instruction but:
 - i. the actual output of the Facility did not, at any time the Dispatch Instruction applied, vary from the output specified in the Dispatch Instruction by more than the applicable Tolerance Range or Facility Tolerance Range; and
 - ii. the average output over a Trading Interval of the Facility was equal to the output specified in the Dispatch Instruction;
- (c) both of the following apply:
 - i. the Market Participant has notified AEMO, in accordance with clause 3.21.4, that its Registered Facility has been affected, or will be affected, by a Forced Outage or Consequential Outage; and
 - ii. the quantity of the Forced Outage or Consequential Outage notified is consistent with the extent to which the Market Participant did not comply with the most recently issued Dispatch Instruction, Operating Instruction or Dispatch Order applicable to its Registered Facility for the Trading Interval;
- (d) a Demand Side Programme was issued a Dispatch Instruction by AEMO under clause 7.6.1C and its Reserve Capacity Obligation Quantity, as determined under clause 4.12.4(c) is or becomes zero; ~~or~~
- (e) clause 7.7.3C excuses compliance; or
- (f) a Scheduled Generator that was subject to an approved Commissioning Test in the Trading Interval was unable to comply with clause 7.10.1 due to a failure of the Facility's equipment during the period approved for the Commissioning Test.

...

Clause 7.13.1A(b) has been amended to:

- use the new terminology for capacity-adjusted outage quantities; and
- clarify that the quantities are only calculated for Scheduled Generators.

7.13.1A. AEMO must record the following data for a Trading Day by noon on the fifteenth Business Day following the day on which the Trading Day ends:

- (a) the MWh quantity of non-compliance by Synergy by Trading Interval; and
- (b) the schedule of all ~~Planned Outages, Forced Outages and Consequential Outages~~ Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for Scheduled Generators relating to each Trading Interval in the Trading Day by Market Participant and Facility.

...

Clause 7.13.1D has been amended to use consistent terminology to describe AEMO's outage management system.

7.13.1D. AEMO must as soon as practicable after:

- (a) AEMO receives a request via ~~AEMO's computer interface system~~ AEMO's outage management system for a Planned Outage of a Scheduled Generator or a Non-Scheduled Generator; or
- (b) AEMO becomes aware via ~~AEMO's computer interface system~~ AEMO's outage management system of a change to the information described in clause 7.13.1E,

record any relevant new or amended information outlined in clause 7.13.1E.

Clause 7.13.1E has been amended to:

- reflect that the quantity currently provided under clause 7.13.1E(d) will now be provided under clause 3.18.6(b); and
- extend the requirement under clause 7.13.1E(c) to cover requests for Opportunistic Maintenance.

7.13.1E The information required to be recorded by AEMO under clause 7.13.1D must include:

- (a) whether the request is for a Scheduled Outage or Opportunistic Maintenance;
- (b) the information provided under clauses 3.18.6(a) ~~and 3.18.6(c)~~ to 3.18.6(g);
- (c) the time and date when:
 - i. the Outage Plan or request for Opportunistic Maintenance was received by AEMO; and
 - ii. any amendment to the outage status occurred; ~~and.~~
- ~~(d) the MW quantity of any de-rating to a Scheduled Generator or Non-Scheduled Generator, as measured on a sent out basis at 15 degrees Celsius.~~

Clause 7.13.1F has been amended to use consistent terminology to describe AEMO's outage management system.

7.13.1F. AEMO must as soon as practicable after:

- (a) AEMO receives a notification of a Forced Outage via ~~its computer interface system~~ AEMO's outage management system or records in ~~its computer interface system~~ AEMO's outage management system that a Consequential Outage has occurred for a Scheduled Generator or a Non-Scheduled Generator; or
- (b) AEMO becomes aware via ~~AEMO's computer interface system~~ AEMO's outage management system of any change to the information described in clause 7.13.1G,

record any relevant new or amended information outlined in clause 7.13.1G.

Clause 7.13.1G has been amended to:

- reference the new clauses that specify the required information items; and
- update the reference to the clause under which AEMO determines that a Consequential Outage has occurred.

7.13.1G. The information required to be recorded by AEMO under clause 7.13.1F must include:

- (a) whether the outage is considered to be a Forced Outage or Consequential Outage;
- (b) for a Forced Outage, the information ~~provided under clauses 3.21.4(a)–3.21.4(d); specified in clauses 3.21.4A(a) to 3.21.4A(e) that is provided by the relevant Market Participant or Network Operator;~~
- (c) for a Consequential Outage, the information specified in clauses 3.21.11(a) to 3.21.11(e) that is provided by the relevant Market Participant or Network Operator; and
- (ed) the time and date when:
 - i. the Forced Outage was first notified to AEMO;
 - ii. the outage status was amended by AEMO; and
 - iii. AEMO recorded in ~~its computer interface system~~ AEMO's outage management system that a Consequential Outage occurred as determined approved under clause ~~3.21.2; and 3.21.14(a).~~
- ~~(d) the MW quantity of any de-rating to a Scheduled Generator or Non-Scheduled Generator, as measured on a sent out basis at 15 degrees Celsius.~~

...

Clause 7A.2.4A has been amended to use the term “Balancing Facility Maximum Capacity” instead of “Sent Out Capacity”.

7A.2.4A. A Balancing Submission for a Balancing Facility that is a Scheduled Generator must specify the following details for each Trading Interval covered in the Balancing Submission:

(a) a ranking of Balancing Price-Quantity Pairs covering available capacity; and

(b) a declaration of the MW quantity that will be unavailable for dispatch, where the sum of:

(c) the quantities in the Balancing Price-Quantity Pairs; and

(d) the declared MW quantity of unavailable capacity,

must be equal to the ~~Scheduled Generator’s Sent Out~~ Balancing Facility Maximum Capacity for the Scheduled Generator.

...

Clause 7A.2.8A has been amended to:

- limit the application of the clause to Scheduled Generators (the slightly different obligations for Non-Scheduled Generators have been moved to new clause 7A.2.8B); and
- remove the redundant exclusion of the Balancing Portfolio.

7A.2.8A. A Market Participant ~~(other than Synergy in respect of the Balancing Portfolio)~~ must, for each of its Balancing Facilities that is a Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility’s capacity that is:

(a) subject to an approved Planned Outage; or

(b) subject to an outstanding request for approval of Opportunistic Maintenance,

is declared as unavailable in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

New clause 7A.2.8B specifies the equivalent obligations for Non-Scheduled Generators to those specified in clause 7A.2.8A for Scheduled Generators.

7A.2.8B. A Market Participant must, for each of its Balancing Facilities that is a Non-Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility’s capacity that is:

(a) subject to an approved Planned Outage; or

(b) subject to an outstanding request for approval of Opportunistic Maintenance,

is excluded from the estimated MW quantity in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

...

Clause 7A.2.10 has been amended to remove the references to the former defined term “Sent Out Capacity”.

7A.2.10. A Market Participant (other than Synergy in relation to the Balancing Portfolio) as soon as it becomes aware that a Balancing Submission for a Trading Interval for which Balancing Gate Closure has occurred is inaccurate:

- (a) if the inaccuracy is due to an Internal Constraint, must make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the available ~~Sent Out Capacity~~ sent out capacity of that Facility and the Ramp Rate Limit is accurate but no prices are altered, in respect of that Trading Interval as soon as reasonably practicable;
- (b) if the inaccuracy is due to an External Constraint, may make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the available ~~Sent Out Capacity~~ sent out capacity of that Facility and the Ramp Rate Limit is accurate but no prices are altered, in respect of that Trading Interval, as soon as reasonably practicable;
- (c) if the inaccuracy is due to the Market Participant receiving an Operating Instruction, may make a new, accurate Balancing Submission that reflects the Operating Instruction; or
- (d) if the inaccuracy is due to a variation of the availability of the intermittent energy source used by a Non-Scheduled Generator, may make a new, accurate Balancing Submission so that the quantity in the Balancing Submission reflects the Market Participant’s best estimate of the Facility’s output at the end of the Trading Interval and the Ramp Rate Limit is accurate but the price is not altered, in respect of that Trading Interval.

...

7A.2A. Accounting for Unavailable Capacity in a Balancing Submission

Clauses 7A.2A.1 and 7A.2A.2 have been amended to clarify that the required notifications must be made in the manner prescribed in the relevant WEM Procedure.

7A.2A.1. Subject to clauses 7A.2A.3 and 7A.2A.4, a Market Participant (other than Synergy in respect of the Balancing Portfolio) must, as soon as practicable after each Trading Interval, for each of its Balancing Facilities that is an Outage Facility,

ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which the Market Participant holds Capacity Credits that:

- (a) was declared unavailable in the Facility's Balancing Submission for that Trading Interval; and
- (b) was not subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval,

unless the relevant capacity was declared unavailable in the Facility's Balancing Submission because the Market Participant reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

7A.2A.2. Subject to clauses 7A.2A.3 and 7A.2A.4, Synergy must, as soon as practicable after each Trading Interval, for each Facility in the Balancing Portfolio that is an Outage Facility, ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which Synergy holds Capacity Credits that:

- (a) was declared unavailable in the Balancing Portfolio's Balancing Submission for that Trading Interval; and
- (b) was not subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval,

unless the relevant capacity was declared unavailable in the Balancing Portfolio's Balancing Submission because Synergy reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

...

11. Glossary

...

The definition of Available Capacity has been amended to provide more specific detail on how it is calculated.

Available Capacity: ~~Means, for a Trading Interval, the sent out capacity, in MW, of a Scheduled Generator or a Non-Scheduled Generator that was not subject to an Outage notified to AEMO under clause 7.13.1A(b).~~ For a Trading Interval:

- (a) for a Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(b)(iii)) minus the sum of the Capacity-Adjusted Forced Outage Quantity, Capacity-Adjusted Planned

Outage Quantity and Capacity-Adjusted Consequential Outage Quantity for the Facility in the Trading Interval; and

(b) for a Non-Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(e)(iiiA)).

...

The term Balancing Facility Maximum Capacity replaces Sent Out Capacity.

Balancing Facility Maximum Capacity:

(a) for a Balancing Facility, other than the Balancing Portfolio, that is:

i. a Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(b)(iii); and

ii. a Non-Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(e)(iiiA); and

(b) for the Balancing Portfolio, the sum of all of the Standing Data in Appendix 1(b)(iii) and Appendix 1(e)(iiiA) for each Facility in the Balancing Portfolio.

...

The definition of Balancing Price-Quantity Pair has been amended to replace the term Sent Out Capacity with Balancing Facility Maximum Capacity.

Balancing Price-Quantity Pair: ~~Means~~

- (a) for a Scheduled Generator, the specified non-Loss Factor adjusted MW quantity at which a Market Participant is prepared to operate a Balancing Facility as at the end of a Trading Interval and the non-Loss Factor Adjusted Price, in \$/MWh, at which the Market Participant is prepared to provide that quantity by the end of that Trading Interval;
- (b) for a Non-Scheduled Generator the specified non-Loss Factor adjusted MW quantity at which a Market Participant is prepared to reduce its output as at the end of a Trading Interval and the non-Loss Factor Adjusted Price, in \$/MWh, at which the Market Participant is prepared to provide that quantity by the end of that Trading Interval; and
- (c) for the Balancing Portfolio, the specified MW quantity at which Synergy is prepared to have the Balancing Portfolio dispatched at as at the end of a Trading Interval and the Loss Factor Adjusted Price, in \$/MWh, at which Synergy is prepared to provide from the ~~sum of all of its Sent Out Capacity for each Facility in~~ Balancing Facility Maximum Capacity of the Balancing Portfolio by the end of the Trading Interval.

...

Capacity-Adjusted Consequential Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to an approved Consequential Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(c).

Capacity-Adjusted Forced Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to a Forced Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(a).

Capacity-Adjusted Planned Outage Quantity: For a Scheduled Generator for a Trading Interval, the total MW capacity of the Scheduled Generator for which Capacity Credits are assigned that is subject to an approved Planned Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(b).

...

The definition of Equivalent Planned Outage Hours has been amended to update the reference for the relevant WEM Procedure.

Equivalent Planned Outage Hours: ~~Means, in In~~ respect of a Facility, the sum of the “Planned Outage Hours” and the “Equivalent Planned Derated Hours” for the Facility as calculated in accordance with the WEM Procedure specified in clause ~~3.21.12~~3.21.17.

...

The definition of Internal Constraint has been amended to remove the reference to the former defined term “Sent Out Capacity”.

Internal Constraint: In relation to a Facility, ~~means~~ an event that is not an External Constraint and which adversely impacts the ~~Sent Out Capacity~~ sent out capacity of the Facility.

...

Refund Exempt Planned Outage: ~~Means a~~ A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is not payable, as determined by AEMO under clause 4.26.1C.

Refund Exempt Planned Outage Count: ~~Means, in In~~ respect of a Scheduled Generator and a period of time, the sum over all Trading Intervals in that period ~~of~~ of:

- (a) zero, if the Trading Interval occurs before 8:00 AM on 1 June 2016 or if no Capacity Credits were associated with the Facility in the Trading Interval; or
- (b) the ~~MW quantity of~~ Refund Exempt Planned Outage for the Facility in the Trading Interval, divided by the number of Capacity Credits associated with the Facility in the Trading Interval.

Refund Payable Planned Outage: ~~Means a~~ A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is payable, as determined by AEMO under clause 4.26.1C.

...

The definition of Scheduled Outage has been amended to clarify the meaning of the term.

Scheduled Outage: ~~Means an~~ An outage that has an Outage Plan that is included in AEMO's outage schedule. A Scheduled Outage does not cease to be a Scheduled Outage if it is approved by AEMO and becomes a Planned Outage.

...

The term Sent Out Capacity has been renamed Balancing Facility Maximum Capacity.

Sent Out Capacity: Means:

- (a) ~~for a Balancing Facility, other than the Balancing Portfolio, that is:~~
 - i. ~~a Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(b)(iii); and~~
 - ii. ~~a Non-Scheduled Generator, the capacity provided as the Standing Data in Appendix 1(e)(iiiA); and~~
- (b) ~~for the Balancing Portfolio, the sum of all of the Standing Data in Appendix 1(b)(iii) and Appendix 1(e)(iiiA) for each Facility in the Balancing Portfolio.~~

...

Unadjusted Consequential Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any approved Consequential Outages for the Facility in AEMO's outage management system.

Unadjusted Forced Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any Forced Outages for the Facility in AEMO's outage management system.

Unadjusted Planned Outage Quantity: For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, the total quantity of de-rating recorded for any approved Planned Outages for the Facility in AEMO's outage management system.

...

Appendix 9: Relevant Level Determination

...

Step 3(c) has been amended to:

- correct a grammatical error; and
- remove the requirement for the Consequential Outage to have been reported in an ex-post outage schedule.

Step 3: For each Candidate Facility, identify any Trading Intervals in the period identified in step 1(b) where:

- (a) the Facility, other than a Facility in the Balancing Portfolio, was directed to restrict its output under a Dispatch Instruction as provided in a schedule under clause 7.13.1(c); or
- (b) the Facility, if in the Balancing Portfolio, was instructed by AEMO to deviate from its Dispatch Plan or change its commitment or output as provided in a schedule under clause 7.13.1C(d); or
- (c) the Facility was affected by a Consequential Outage ~~as recorded by AEMO under clause 7.13.1A~~; or
- (d) the Facility was directed to restrict its output under an Operating Instruction issued in accordance with a Network Control Service Contract, as provided in a schedule under clause 7.13.1(cC).

...

Step 6 has been amended to:

- refer to Unadjusted Consequential Outage Quantities in Step 6(a), as the calculation relates to an Intermittent Generator; and
- remove the superfluous word “notified” in the final sentence.

Step 6: For each Candidate Facility and Trading Interval identified in step 3(c) use:

- (a) ~~the schedule of Consequential Outages determined by AEMO under clause 7.13.1A~~ Unadjusted Consequential Outage Quantity for the Candidate Facility for the Trading Interval;
- (b) the quantity determined for the Facility and Trading Interval in step 2; and
- (c) the information recorded by AEMO under clause 7.13.1C(a),
to estimate the quantity of energy (in MWh) that would have been sent out by the Facility had it not been affected by the ~~notified~~ Consequential Outage during the Trading Interval.

...

...

Appendix A. Responses to Submissions Received on the Draft Rule Change Report

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
1	AEMO	AEMO is not convinced that the benefits of the rule change outweigh the costs imposed upon Market Participants. The AEMO IT system changes required to address the proposed rule change are estimated to cost approximately \$486,000, but the resulting rules will only have a lifespan of about 15 months (i.e. June 2021 to October 2022, which is the proposed commencement date of the WEM Reform changes).	See section 7.2.1 of this report.
2	Synergy	<p>Synergy is of the view that the benefits received over the reduced expected lifespan of the mechanism are insufficient to warrant the implementation costs. Changes anticipated in the new market commencing 1 October 2022 are likely to render the Triggering Outage Notice mechanism obsolete, meaning that costs and resources set aside to implement these changes will become redundant.</p> <p>Further, changes to outage quantity determinations form a material component of Synergy's outages calculations and require material system changes to Synergy's STEM Submissions, Balancing Submissions and internal processes. For instance, system calculations would need to be reconfigured on a nominal basis and system changes would be required to enable automated temperature correction. Again, these changes will need to be reversed and amended once the new market commences.</p>	See section 7.2.1 of this report.
3	Synergy	Synergy considers that the costs for implementation are considerable (AEMO's estimate of c. \$550,000 and	See section 7.2.1 of this report.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		Synergy's estimate of \$250,000-\$350,000), not accounting for contingency allowance, opportunity cost as well as costs borne by other Market Participants.	
4	Synergy	Synergy reiterates its concern that the introduction of a security constrained economic dispatch energy market as well as the replacement of SMMITS by 1 October 2022, which means that the proposed Triggering Outage Notification mechanism may no longer be applicable, thus effectively allowing only less than 1.5 years to reap the benefits of this new framework.	See section 7.2.1 of this report.
5	Synergy	Under section 1.0 of the Draft Rule Change Report, it is noted that the proposed changes "have an estimated implementation cost and timeframe that will allow net benefit to be realised over the remaining period before the expected implementation of the new market arrangements in October 2022". However, this assessment was formed prior to the provision of implementation cost estimates from Market Participants. Synergy's view is that this reasoning warrants reconsideration in light of anticipated costs reflected in Market Participants' submission on the Draft Rule Change Report.	See section 7.2.1 of this report.
6	AEC	AEMO anticipates that the Proposal will cost it \$486,000 in IT system changes while Synergy estimates it will incur costs of \$250,000-\$350,000. These are significant costs for short-term changes that will only have a lifespan of 15 months. And, notably, these costs do not account for	See section 7.2.1 of this report.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		contingency, the cost of training staff and updating procedures, and costs incurred by other Market Participants.	
7	AEMO	It is also important to note that AEMO and the wider industry are currently working to implement the WEM Reform. Considering the time constraints associated with WEM Reform, AEMO believes that the industry's resources would be better placed focusing on implementing the WEM Reform. AEMO also understands, that the WEM Reform will deliver the same outcomes as this Rule Change Proposal.	See section 7.2.1 of this report.
8	Synergy	Synergy's view is that the proposed changes present an unnecessary, and significant, disruption to Synergy's critical activities required to prepare for the new market scheduled for commencement on 1 October 2022.	See section 7.2.1 of this report.
9	AEC	While the financial cost of the Proposal is considerable, perhaps the most concerning aspect of the Proposal is that for some Market Participants staff will need to be diverted away from preparing their organisations for the new market to address the requirements of the Proposal. The AEC considers the proposed changes to present an unnecessary and major disruption to Market Participants and the critical activities they need to undertake to prepare for the new market.	See section 7.2.1 of this report.
10	Synergy	Synergy draws attention to the opportunity cost involved in conducting these changes, noting that resources required to implement these changes are the same as those currently working on Synergy's Wholesale Electricity Market Market	See section 7.2.1 of this report.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		<p>Readiness (WEMMR) program designed to prepare Synergy for the new market commencing 1 October 2022.</p> <p>Synergy's view is that Market Participants, and AEMO, should remain focussed on preparation for the new market and the new Triggering Outage Notification mechanism and Outage Quantity determinations creates an unnecessary disruption to ongoing WEMMR activities and may even jeopardise Synergy's ability to complete its WEMMR readiness programme on time. Given the limited lifespan of the mechanism and the significant impost on cost and resources, Synergy considers it inappropriate to proceed with the adoption of the Triggering Outage Notification mechanism that poses risk to the delivery of critical changes required to operate in the new market</p>	
11	Synergy	<p>Synergy recognises the importance of Market Participant visibility of Network Operator planned outages. However, Synergy anticipates that the changes may only provide marginal benefits and incurring large costs to implement a guaranteed redundant mechanism may not be an efficient use of time and resources. Therefore, Synergy's strong recommendation is to not proceed with the Draft Rule Change Report.</p> <p>Synergy's view is that one of the underlying issues in relation to market transparency is the need to reflect Generator Interim Access (GIA) and regional network constraints in the Balancing Merit Order (BMO). However, Synergy considers that the proposed changes under</p>	<p>See section 7.2.1 of this report.</p> <p>The Rule Change Panel agrees with Synergy that the proposed Triggering Outage Notice mechanism would not have addressed all of the market transparency issues connected with regional network constraints and the use of the GIA tool to dispatch Constrained Access Facilities.</p>

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		RC_2014_03 only addresses a small component of these concerns.	
12	Synergy	Synergy notes that one of the key drivers for RC_2014_03 is to require individual participants to reflect foreseeable constraints in order to reduce the volume of energy bid into the market which may not be able to be delivered. Synergy notes that where the constraint impacts the sum of output from multiple facilities, the desire to properly reflect energy which can be physically delivered may not occur unless AEMO ensures that the sum of available capacity from all affected parties does not exceed the regional cap. At present, Synergy does not understand how this will be achieved without AEMO effectively picking winners as AEMO may not know the pricing of individual facilities in advance.	The Triggering Outage Notice mechanism was not intended to apply in situations where the extent to which individual Facilities would be curtailed because of a regional network constraint could not be predicted in advance.
13	Synergy	Further, the Draft Rule Change Report does not address the issue of Western Power North Country regional network constraints, which heavily impacts balancing price forecast accuracy and would benefit from increased market transparency. In some instances, Synergy receives notification of North Country Network constraints as our Pinjar facility may be directly impacted. Synergy notes that the combined North Country constraint often exceeds the capacity of all individual facilities. With no way of knowing how Western Power / AEMO will constrain individual facilities, all volume subject to regional constraints is bid into the balancing market but not all of it can be dispatched.	In response to Synergy's concern, RCP Support asked AEMO whether it considered there was any reason under the WEM Rules why AEMO could not provide more detail to Market Participants about the likely impact of North Country network constraints when these apply in the form of a regional cap rather than specific constraints on specific Facilities. AEMO advised that "the inability to provide more granular data to Market Participants is due to limitations with the GIA solution and deficiencies with the North Country network. For example, changes in the network may mean that the GIA constraints are no longer applicable".

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
			AEMO agreed that the current regional cap arrangement does not provide Market Participants with transparency and considered that this can be resolved through the ETS reforms when Security Constrained Economic Dispatch is introduced.
14	Synergy	Specifically, Synergy does not support the proposed method of communicating Triggering Outage Notices via Dispatch Advisories under clause 3.20.5. A Triggering Outage Notification mechanism that does not conform with these assumptions would adversely impact implementation costs as well as heighten non-compliance risk.	See section 7.2.1 of this report.
15	AEMO	The Rule Change Panel has indicated on page 106 of the Draft Rule Change Report (at footnote 123) that proposed transitional rule 1.nn.6 applies to Scheduled Outages and Planned Outages. However, the drafting only refers to an Outage Plan – thereby excluding Scheduled Outages and Planned Outages. AEMO's long-standing view has been that a Scheduled Outage becomes a Planned Outage. That is, the term 'Outage Plan' does not include a Planned Outage. AEMO is discussing this potential omission with the Rule Change Panel.	See section 7.2.3 of this report.
16	AEMO	AEMO also notes that proposed transitional rules 1.nn.3 to 1.nn.7 use defined terms that will not commence until the remainder of the Amending Rules commence. Therefore, it appears AEMO will not be able to perform the functions required in those clauses, as the relevant concepts will not exist at the time the transitional rules commence.	Transitional rules 1.nn.3 to 1.nn.7 have been removed from the Amending Rules.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
17	AEMO	<p>The Rule Change Panel notes on page 114 of the Draft Rule Change Report that a material proportion of the costs required to modify the Wholesale Electricity Market System (WEMS) in order to implement the Rule Change Proposal relate to changes to enable the recording of ex-ante outage schedules and ex-post outage schedules in WEMS. The Rule Change Panel notes that the obligation to account for high-temperature days in capacity-adjusted outage calculations has existed since 2007 and that this component of AEMO's cost estimate relates to an existing compliance obligation, rather than implementation of the Amending Rules for this Rule Change Proposal.</p> <p>AEMO's inability to comply with the obligation to account for high-temperature days in capacity-adjusted outage calculations is a known error in the WEM Rules that has existed since 2007. If changes are not required to be made because of the Rule Change Proposal, AEMO would continue to risk-accept this non-compliance. Further, the Rule Change Proposal requires a bespoke IT solution that will require further costs to be incurred. Therefore, the WEMS changes estimated by AEMO should be included in the consideration of costs and benefits, as the associated costs would not otherwise be incurred if this rule change did not proceed</p>	See sections 7.2.1.3 and 7.6 of this report.
18	AEMO	The Rule Change Panel recommends on page 114 of the Draft Rule Change Report that AEMO reconsider whether its decision to not leverage the existing Dispatch Advisory functionality, and the extent to which it proposes to automate the mechanism to minimise compliance risk, are warranted,	See section 7.2.1 of this report.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		<p>given the low expected volumes of Foreseeable Constraints and the shorter expected lifespan of the mechanism.</p> <p>AEMO has considered several implementation options and has concluded that use of the current Dispatch Advisory mechanism is not suitable for AEMO to ensure compliance with the proposed Amending Rules.</p>	
19	AEMO	<p>iii. The Rule Change Panel notes on page 115 of the Draft Rule Change Report that the remaining system management system costs include transition costs relating to the creation of a new table of effective dated values for Coefficient 1 and Coefficient 2. Given the proposed transitional approach set out in section 6.4.4.2 of the Draft Rule Change Report, the Rule Change Panel suggests that it may be possible to manage the transition without incurring the costs of the proposed table.</p> <p>iv. The Rule Change Panel notes on page 115 that the cost estimate to implement system changes, resulting from proposed changes to clauses 3.18.2A, 3.18.9A and 3.19.2E of the WEM Rules to prevent retrospective changes to Planned Outage end times or quantities of de-rating, is acceptable, given the associated transparency benefits. The Rule Change Panel notes that physically preventing adjustments to Planned Outage end times in SMMITS is not the only implementation option.</p> <p>AEMO has considered several implementation options for the issues raised in (iii) and (iv) above. AEMO concluded that the proposed mechanism, set out in section 6.4.4.2 of the Draft Rule Change Report, is the most efficient method</p>	<p>The Rule Change Panel notes that:</p> <ul style="list-style-type: none"> in relation to point (iii), a transition mechanism is no longer required to convert Coefficient 1 and Coefficient 2 values to 1; and in relation to point (iv), AEMO has advised that it no longer proposes to make IT system changes to implement proposed clauses 3.18.2A, 3.18.9A and 3.19.2E.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		to meet the requirements of the rule change and to ensure compliance with the proposed Amending Rules.	
20	AEMO	<p>The Rule Change Panel considers on page 116 of the Draft Rule Change Report that a 6-month implementation period is very conservative.</p> <p>AEMO notes that, given the requirements of a substantial IT implementation and the need to revise a WEM Procedure (minimum 28 Business Days), any lesser timeframe will create a risk that implementation will not be completed by the commencement date. As such, the 6-month timeframe is not conservative, but reasonable.</p>	See section 7.6.2 of this report.
21	AEMO	The proposed rule change will have negative implications on AEMO's capacity to pursue the WEM Reform objectives because it will direct resources away from the WEM Reform program.	See section 7.2.1 of this report.

Appendix B. Further Amendments to the Proposed Amending Rules

The Rule Change Panel proposes to make some further amendments to the proposed Amending Rules following the second submission period. Note that the base drafting in this appendix has been updated to reflect the WEM Rules as in effect on 1 February 2021.

The further amendments are as follows (~~deleted text~~, added text):

Section 1.nn has been deleted as it is no longer required.

~~1.nn.—Transitional Provisions—Outage Improvements~~

~~1.nn.1.—In this section 1.nn:~~

~~**New Rules:** Means the Amending Rules made in the Rule Change Panel's Final Rule Change Report for Rule Change Proposal: Administrative Improvements to the Outage Process (RC_2014_03), other than the Amending Rules with respect to this section 1.nn.~~

~~**Post-Amended Rules:** Means the WEM Rules as in force immediately after the New Rules come into effect.~~

~~**Pre-Amended Rules:** Means the WEM Rules as in force immediately before the New Rules come into effect.~~

~~**Rule Change Commencement Day:** Means the Trading Day when the New Rules come into effect (as determined by the Rule Change Panel under clause 2.8.12).~~

~~1.nn.2.—During the Trading Day before the Rule Change Commencement Day, notwithstanding that the Pre-Amended Rules continue to apply, each Rule Participant must perform all obligations imposed on that Rule Participant under the Post-Amended Rules, in relation to the Rule Change Commencement Day and subsequent Trading Days that, if the Post-Amended Rules were in force, the Rule Participant would have been required to perform under the Post-Amended Rules with respect to:~~

~~(a)—Triggering Outage Notices issued under section 3.20A;~~

~~(b)—Balancing Submissions submitted in accordance with section 7A.2; and~~

~~(c)—a Dispatch Instruction or Operating Instruction issued under Chapter 7.~~

~~1.nn.3.—By 9:00 AM on the day prior to the Rule Change Commencement Day, AEMO must issue a Triggering Outage Notice for each:~~

~~(a)—Scheduled Outage that is a Triggering Outage and is expected to cause a Foreseeable Constraint that ends after the start of the Rule Change Commencement Day; and~~

~~(b)—Opportunistic Maintenance approved by AEMO in accordance with clause 3.19.4 that is a Triggering Outage and is expected to cause a Foreseeable Constraint that ends after the start of the Rule Change Commencement Day,~~

~~unless AEMO has already issued a Triggering Outage Notice in relation to the Triggering Outage in accordance with clause 1.nn.2.~~

~~1.nn.4.— Any quantity of de-rating entered into AEMO's outage management system for a Non-Intermittent Generator on or after the Rule Change Commencement Day (including a quantity of de-rating for an outage period that started before the Rule Change Commencement Day) is deemed to be provided under the Post-Amended Rules.~~

~~1.nn.5.— From the start of the Rule Change Commencement Day, AEMO must prepare any outage schedules required under clauses 7.3.4 and 7.13.1A(b) (including outage schedules for Trading Days falling before the Rule Change Commencement Day) in accordance with the Post-Amended Rules.~~

~~1.nn.6.— Subject to clause 1.nn.7, where:~~

~~(a) — a Market Participant has submitted:~~

~~i. — an Outage Plan;~~

~~ii. — a request for approval of Opportunistic Maintenance;~~

~~iii. — a request for approval of a Consequential Outage; or~~

~~iv. — details of a Forced Outage,~~

~~for a Non-Intermittent Generator in AEMO's outage management system before the Rule Change Commencement Day; and~~

~~(b) — the relevant outage period overlaps one or more Trading Days for which AEMO is required to prepare an outage schedule under clause 7.13.1A(b) on or after the Rule Change Commencement Day,~~

~~then the Market Participant may provide to AEMO a revised quantity of de-rating for that outage.~~

~~1.nn.7.— A revised quantity of de-rating provided by a Market Participant to AEMO for an outage under clause 1.nn.6 must:~~

~~(a) — vary from the previous quantity of de-rating provided for the outage no more than is needed to account for the impact of the New Rules on the determination of Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities; and~~

~~(b) — be provided to AEMO:~~

~~i. — for outages commencing before the end of the Trading Day following the Rule Change Commencement Day, by 5:00 PM on the day before the last Business Day before the Rule Change Commencement Day; and~~

~~ii. — for other outages, by noon on the Rule Change Commencement Day.~~

- ~~1.nn.8. If AEMO receives a revised quantity of de-rating for an outage under clause 1.nn.6 that meets the requirements specified in clause 1.nn.7, then AEMO must:~~
- ~~(a) replace the previously provided quantity of de-rating with the revised quantity of de-rating in AEMO's outage management system; and~~
 - ~~(b) use the revised quantity of de-rating when preparing outage schedules under clauses 7.3.4 and 7.13.1A(b) on or after the Rule Change Commencement Day.~~

...

Clause 3.18.4A has been amended to clarify the meaning of the term Outage Plan.

- 3.18.4A. A proposal submitted to AEMO in accordance with this section 3.18 by a Market Participant or Network Operator in which permission is sought from for some or all of the capacity or capability of an Equipment List Facility to be unavailable for service for a period is a proposed outage plan (“**Outage Plan**”). An Outage Plan does not cease to be an Outage Plan if the outage to which it relates becomes either a Scheduled Outage or a Planned Outage.

...

Clauses 3.18.9A(a) and 3.19.2E(e) have been amended to clarify their meaning.

- 3.18.9A. A Market Participant or Network Operator must not submit a revised Outage Plan to AEMO that proposes:
- (a) a new start time for the proposed outage that is earlier than the previous proposed start time;
 - (b) a new end time for the proposed outage that is later than the previous proposed end time;
 - (c) an increase in the quantity of de-rating;
 - (d) a new start time or quantity of de-rating for the proposed outage, if the time of submission is later than the previous proposed start time; or
 - (e) a new end time for the proposed outage that is earlier than the time of submission of the revised Outage Plan.

...

- 3.19.2E. A Market Participant or Network Operator must not submit a revised request for approval of Opportunistic Maintenance that proposes:
- (a) a new start time for the Opportunistic Maintenance that is earlier than the previous proposed start time;
 - (b) a new end time for the Opportunistic Maintenance that is later than the previous proposed end time;

- (c) an increase in the quantity of de-rating;
- (d) a new start time or quantity of de-rating for the Opportunistic Maintenance, if the time of submission is later than the previous proposed start time; or
- (e) a new end time for the Opportunistic Maintenance that is earlier than the time of submission of the revised request.

...

Proposed section 3.20A has been deleted as it relates to the proposed network outage transparency changes.

~~3.20A. Triggering Outage Notices~~

~~3.20A.1. A Triggering Outage Notice issued by AEMO under this section 3.20A must include:~~

- ~~(a) a unique identifier for the Triggering Outage;~~
- ~~(b) the date and time that the Triggering Outage Notice is issued;~~
- ~~(c) a description of the event that prompted the issue of the Triggering Outage Notice;~~
- ~~(d) the date and time of the event that prompted the issue of the Triggering Outage Notice;~~
- ~~(e) for each Foreseeable Constraint caused by the Triggering Outage:~~
 - ~~i. the identity of the Facility affected by the Foreseeable Constraint;~~
 - ~~ii. the date and time that the Foreseeable Constraint is expected to commence;~~
 - ~~iii. the date and time that the Foreseeable Constraint is expected to end; and~~
 - ~~iv. the maximum MW level of sent out generation for the affected Facility during the period of the Foreseeable Constraint.~~

~~3.20A.2. AEMO must issue a Triggering Outage Notice in respect of a Triggering Outage as soon as practicable after it:~~

- ~~(a) schedules an Outage Plan for a Triggering Outage in its outage schedule;~~
- ~~(b) removes an Outage Plan for a Triggering Outage that is not yet approved from its outage schedule;~~
- ~~(c) approves a Scheduled Outage that is a Triggering Outage;~~
- ~~(d) rejects a request for approval of a Scheduled Outage that is a Triggering Outage; or~~
- ~~(e) approves a request for Opportunistic Maintenance that is a Triggering Outage.~~

~~3.20A.3. Subject to clause 3.20A.4, AEMO must issue a Triggering Outage Notice as soon as practicable after:~~

- ~~(a) AEMO rejects a previously approved Planned Outage that is a Triggering Outage;~~
- ~~(b) a Network Operator withdraws an Outage Plan for a Scheduled Outage that is a Triggering Outage;~~
- ~~(c) a Network Operator withdraws a previously approved request for Opportunistic Maintenance that is a Triggering Outage;~~
- ~~(d) a Network Operator submits a revised Outage Plan for a Scheduled Outage that affects a Foreseeable Constraint; or~~
- ~~(e) a Network Operator submits a revised request for Opportunistic Maintenance for a previously approved Planned Outage that affects a Foreseeable Constraint.~~

~~3.20A.4. AEMO must not issue a Triggering Outage Notice under clause 3.20A.3 that affects a Foreseeable Constraint in respect of a Trading Interval if it is less than 30 minutes before Balancing Gate Closure for that Trading Interval. If AEMO is prohibited under this clause 3.20A.4 from issuing a Triggering Outage Notice in respect of a Trading Interval, then AEMO must issue a Triggering Outage Notice that reflects the effect on Foreseeable Constraints of the event that prompted the Triggering Outage Notice in respect of those Trading Intervals, if any, for which it is 30 minutes or more before Balancing Gate Closure.~~

~~3.20A.5. AEMO may:~~

- ~~(a) issue Triggering Outage Notices using the processes it uses to issue Dispatch Advisories; and~~
- ~~(b) meet its obligations to publish Triggering Outage Notices on the WEM Website under clause 10.5.1(k) using the processes it uses to publish Dispatch Advisories.~~

...

Proposed clause 3.21.2 has been amended to remove the provisions relating to Foreseeable Constraints.

- 3.21.2. A Consequential Outage is an outage of an Outage Facility that is not an approved Planned Outage, but which AEMO determines:
- (a) was caused by a Forced Outage to another Rule Participant's equipment and would not have occurred if the other Rule Participant's equipment did not suffer a Forced Outage; or
 - (b) was caused by any outage of an item of equipment that is part of a Network, including a Forced Outage or a Planned Outage, and would not have occurred if the item of equipment did not experience the outage.;

- (c) ~~was caused by a Foreseeable Constraint that affected the Outage Facility and that would not have occurred if the Foreseeable Constraint did not affect the Outage Facility; or~~
- (d) ~~will be caused by a Foreseeable Constraint that will affect the Outage Facility.~~

...

Proposed clause 3.21.2B has been amended to remove the provisions relating to Foreseeable Constraints.

3.21.2B. To avoid doubt, the period of a Consequential Outage may include: any period immediately following the outage causing the Consequential Outage that is needed to return the capacity or capability of the Outage Facility that is the subject of the Consequential Outage to service in accordance with the Outage Facility's Equipment Limits.

- (a) ~~any period immediately following the outage causing the Consequential Outage that is needed to return the capacity or capability of the Outage Facility that is the subject of the Consequential Outage to service in accordance with the Outage Facility's Equipment Limits;~~
- (b) ~~any Trading Interval excluded from the period of a Foreseeable Constraint for a Facility in the Balancing Portfolio in a Triggering Outage Notice that is issued less than 30 minutes before the time specified in clause 7A.2.9(d) for that Trading Interval; and~~
- (c) ~~for an Intermittent Generator:~~
- ~~i. the Trading Interval immediately preceding the start of a Foreseeable Constraint for that Facility; and~~
 - ~~ii. the Trading Interval immediately following the end of a Foreseeable Constraint for the Facility,~~
- ~~if the sent out generation of the Facility in those Trading Intervals is less than it would have been had the Foreseeable Constraint not occurred.~~

...

Proposed clause 3.21.4 has been amended to:

- remove the exclusion for Foreseeable Constraints; and
- update the WEM Procedure clause reference.

3.21.4. If a Market Participant or Network Operator becomes aware that its Outage Facility:

- (a) has suffered a Forced Outage;

(b) has suffered an outage that the Market Participant or Network Operator considers is a Consequential Outage ~~that is not attributable to a Foreseeable Constraint~~; or

(c) will suffer a Forced Outage from a specific time in the future,

then the Market Participant or Network Operator must notify AEMO and provide the information specified in clause 3.21.4A as soon as practicable, in the manner prescribed in the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17.

...

Proposed clause 3.21.4B has been amended to update the WEM Procedure clause reference.

3.21.4B. Where a Market Participant or Network Operator has informed AEMO of a Forced Outage or Consequential Outage under clause 3.21.4, the Market Participant or Network Operator must inform AEMO of any material change to the information provided as soon as practicable after becoming aware of that change, in the manner prescribed in the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17.

Proposed clause 3.21.5 has been amended to:

- replace “maximum sent out capacity” with “sent out capacity”, as the relevant values may not always reflect the maximum sent out capacity of the Facility; and
- require quantities of de-rating to be measured assuming the temperature associated with the Facility’s sent out capacity

3.21.5. The quantity of de-rating for an outage notification submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator is the MW reduction in capacity from the relevant Facility’s ~~maximum~~ sent out capacity, adjusted to account for any previous outage notifications for concurrent outages of the Facility. When calculating the quantity of de-rating for an outage notification to be submitted to AEMO for a Scheduled Generator or Non-Scheduled Generator:

(a) the ~~maximum~~ sent out capacity of the Facility is the quantity specified for the Facility under Appendix 1(b)(iii) or Appendix 1(e)(iiiA) as applicable;

(b) the MW reduction in capacity must be measured assuming the temperature associated with the sent out capacity of the Facility;

~~(bc)~~ if the reduction in capacity varies during a Trading Interval, then the quantity of de-rating for the Trading Interval is measured as the average MW reduction in capacity over the duration of the Trading Interval; and

~~(ed)~~ if the outage notification is in respect of an outage for an Intermittent Generator with a nameplate capacity (as specified for the Facility under Appendix 1(e)(ii)) exceeding its ~~maximum~~ sent out capacity, and the Intermittent Generator remains or will remain capable of achieving its ~~maximum~~ sent out capacity throughout the outage period, then the quantity of de-rating for the outage is deemed to be zero.

...

Proposed clause 3.21.6 has been amended to:

- restrict the calculation of capacity-adjusted outage quantities to Scheduled Generators; and
- include a temperature adjustment factor (equivalent to SMMITS Coefficient 2) in the calculations.

3.21.6. For a ~~Non-Intermittent~~ Scheduled Generator, for a Trading Interval:

(a) the Capacity-Adjusted Forced Outage Quantity is:

$$\text{CAFO} = \max(0, \text{UFO} - (\text{MSOC} - \text{DEF_RCOQ}))$$

$$\text{CAFO} = \max(0, \text{UFO} \times \text{TAF} - (\text{SOC} \times \text{TAF} - \text{DEF_RCOQ}))$$

(b) the Capacity-Adjusted Planned Outage Quantity is:

$$\text{CAPO} = \max(0, \text{UPO} - \max(0, \text{MSOC} - \text{DEF_RCOQ} - \text{UFO}))$$

$$\text{CAPO} = \max(0, \text{UPO} \times \text{TAF} - \max(0, \text{SOC} \times \text{TAF} - \text{DEF_RCOQ} - \text{UFO} \times \text{TAF}))$$

(c) the Capacity-Adjusted Consequential Outage Quantity is:

$$\text{CACO} = \max(0, \text{UCO} - \max(0, \text{MSOC} - \text{DEF_RCOQ} - \text{UFO} - \text{UPO}))$$

$$\text{CACO} = \max(0, \text{UCO} \times \text{TAF} - \max(0, \text{SOC} \times \text{TAF} - \text{DEF_RCOQ} - \text{UFO} \times \text{TAF} - \text{UPO} \times \text{TAF}))$$

where:

UFO is the Unadjusted Forced Outage Quantity for the ~~Non-Intermittent~~ Scheduled Generator for the Trading Interval;

TAF is the temperature adjustment factor determined by AEMO for the Scheduled Generator for the Trading Interval in accordance with clause 3.21.6A;

MSOC/SOC is the ~~maximum~~ sent out capacity of the ~~Non-Intermittent~~ Scheduled Generator specified under Appendix 1(b)(iii) ~~or Appendix 1(e)(iiiA)~~ (as applicable) for the Trading Interval;

DEF_RCOQ is the Reserve Capacity Obligation Quantity that would apply to the ~~Non-Intermittent~~ Scheduled Generator in the Trading Interval assuming that the ~~Non-Intermittent~~ Scheduled Generator was not subject to an Outage or an approved Commissioning Test in the Trading Interval;

UPO is the Unadjusted Planned Outage Quantity for the ~~Non-Intermittent~~ Scheduled Generator for the Trading Interval; and

UCO is the Unadjusted Consequential Outage Quantity for the ~~Non-Intermittent~~ Scheduled Generator for the Trading Interval.

New clause 3.21.6A specifies how AEMO must determine the temperature adjustment factors used in the capacity-adjusted outage quantity calculations.

3.21.6A. AEMO must determine the temperature adjustment factor (“TAF”) that is required in the calculations under clause 3.21.6 for a Scheduled Generator for a Trading Interval:

(a) if requested to do so by the relevant Market Participant under clause 3.21.6B, as:

$$\text{TAF} = \text{MSOC}_{41} / \text{SOC}$$

where:

MSOC₄₁ is the maximum sent out capacity of the Scheduled Generator at an ambient temperature of 41 degrees Celsius, as provided by the Market Participant to AEMO and used by AEMO for the purposes of Reserve Capacity Testing for the applicable Capacity Year; and

SOC is the sent out capacity of the Scheduled Generator specified under Appendix 1(b)(iii) for the Trading Interval;

and

(b) in all other circumstances as:

$$\text{TAF} = \text{AG}_{41} / \text{AG}_{15}$$

where:

AG₄₁ is the maximum capacity of the Scheduled Generator at 41 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator; and

AG₁₅ is the maximum capacity of the Scheduled Generator at 15 degrees Celsius as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on a generated basis for the Scheduled Generator.

New clause 3.21.6B allows a Market Participant to request AEMO to use the calculation specified in clause 3.21.6A(a) to determine temperature adjustment factors for its Scheduled Generator.

3.21.6B. A Market Participant may, by notice in writing to AEMO, request that AEMO determine the temperature adjustment factor required in the calculations under clause 3.21.6 for its Scheduled Generator for Trading Intervals in which the Scheduled Generator holds Capacity Credits using the calculation specified in clause 3.21.6A(a).

...

Proposed clause 3.21.8 has been amended to restrict the application of the clause to Scheduled Generators.

3.21.8. AEMO may, by written notice to a Market Participant, amend the timeframe prescribed in clause 3.21.7 for a specified period for a ~~Non-Intermittent Scheduled~~ Generator if AEMO considers that it requires more timely information in respect of Forced Outages from the Market Participant to determine whether the Market Participant's Trading Margin is less than zero.

Proposed clause 3.21.9 has been amended to clarify its meaning.

3.21.9. If AEMO amends the timeframes prescribed in clause 3.21.7 under clause 3.21.8, the Market Participant is not required to comply with the timeframes in clause 3.21.7 for the period specified in the notice and must instead comply with the timeframes set under clause 3.21.8.

Proposed clause 3.21.10 has been amended to update the cross reference from clause 3.21.17 to clause 3.21.16(a).

3.21.10. Subject to clause ~~3.21.17~~ 3.21.16(a), if a Market Participant or Network Operator considers that its Outage Facility has suffered a Consequential Outage then it may submit a request for a Consequential Outage to AEMO.

Proposed clause 3.21.11, which relates to Consequential Outages caused by Foreseeable Constraints, has been deleted, and the remaining clauses in the section renumbered accordingly.

~~3.21.11.—A Market Participant may submit a request for a Consequential Outage of its Outage Facility before the outage commences if the Market Participant receives a Triggering Outage Notice in respect of a Foreseeable Constraint that will result in the Outage Facility suffering a Consequential Outage.~~

Proposed clause 3.21.12 (now 3.21.11) has been amended to:

- remove the reference to deleted clause 3.21.11; and
- remove the requirement relating to outages caused by Foreseeable Constraints.

3.21.121. The information provided in a request submitted under clauses 3.21.10 ~~or 3.21.11~~ must include:

- (a) the date and time the outage commenced or is expected to commence (as applicable);
- (b) the date and time the outage ended or is expected to end (as applicable);
- (c) the cause of the outage;
- (d) the Outage Facility de-rated as a result of the outage; and

- (e) the expected quantity of any de-rating by Trading Interval, which must be submitted in accordance with clause 3.21.5 where the Facility is a Scheduled Generator or Non-Scheduled Generator; ~~and~~
- ~~(f) — for an outage that is caused by a Foreseeable Constraint, the unique identifier provided by AEMO for the relevant Triggering Outage.~~

Proposed clause 3.21.13 (now 3.21.12) has been amended to remove the reference to deleted clause 3.21.11.

3.21.13~~2~~. Where a Market Participant or Network Operator submits a request for a Consequential Outage under clauses 3.21.10 ~~or 3.21.11~~, or revises such a request under clause ~~3.21.14(a) 3.21.13(a)~~, and that request (or revised request) complies with clause ~~3.21.12 3.21.11~~, then the request (or revised request) will be deemed to constitute a declaration by an Authorised Officer of the Market Participant or Network Operator that the Consequential Outage has occurred.

Proposed clauses 3.21.14 and 3.21.15 (now 3.21.13 and 3.21.14) have been amended to remove the reference to Foreseeable Constraints.

3.21.14~~13~~. Subject to clause ~~3.21.17(a) 3.21.16(a)~~, if a Market Participant or Network Operator submits a request for a Consequential Outage and subsequently becomes aware that the information provided in the request is inaccurate ~~or inconsistent with the latest information issued by AEMO for a relevant Foreseeable Constraint in a Triggering Outage Notice~~, then the Market Participant or Network Operator must, as appropriate:

- (a) revise the request to update the information; or
 - (b) withdraw the request,
- as soon as practicable.

3.21.15~~4~~. Subject to clause ~~3.21.17(b) 3.21.16(b)~~, AEMO:

- (a) must approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator, including an updated request, and inform the Market Participant or Network Operator of its decision as soon as practicable after the request is submitted;
- ~~(b) — must approve a request for a Consequential Outage that is attributed to a Foreseeable Constraint if the information provided in the request is consistent with the latest information issued by AEMO for the Foreseeable Constraint in a Triggering Outage Notice;~~
- ~~(c)~~ must accept the information provided in a request for a Consequential Outage ~~that is not attributed to a Foreseeable Constraint~~ as accurate unless the information is inconsistent with other information held by AEMO; and

- (~~dc~~) may reject a previously approved request for a Consequential Outage if AEMO considers that the original determination was based on incorrect information, or has been superseded by new or updated information.

3.21.1~~65~~. If AEMO rejects a request for a Consequential Outage under clause ~~3.21.15~~ 3.21.14 then it:

- (a) must inform the relevant Market Participant or Network Operator of the reasons for its decision as soon as practicable; and
- (b) may deem the request for a Consequential Outage to be a report of a Forced Outage.

3.21.1~~76~~. Notwithstanding any other provision of this section 3.21:

- (a) a Market Participant or Network Operator must not submit or revise a request for a Consequential Outage in respect of a Trading Day after the end of the day that is 15 calendar days after the day on which the Trading Day ends; and
- (b) AEMO must make its final decision on whether to approve or reject a request for a Consequential Outage submitted by a Market Participant or Network Operator in respect of a Trading Day before the time that AEMO must record the relevant data for the Trading Day in the schedule required under clause 7.13.1A(b).

3.21.1~~87~~. AEMO must document the procedure to be followed in determining and reporting Forced Outages and Consequential Outages in a WEM Procedure.

...

Clause 4.11.1(h) has been amended to update the WEM Procedure clause reference.

4.11.1. Subject to clauses 4.11.7 and 4.11.12, AEMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle for which an application for Certified Reserve Capacity has been submitted in accordance with section 4.10:

...

- (h) subject to clauses 4.11.1B and 4.11.1C, AEMO may decide not to assign any Certified Reserve Capacity to a Facility, or to assign a lesser quantity of Certified Reserve Capacity to a Facility than it would otherwise assign in accordance with this clause 4.11.1, if:
 - i. the Facility has been in Commercial Operation for at least 36 months and has had a Forced Outage rate or a combined Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D, over the preceding 36 months; or

- ii. the Facility has been in Commercial Operation for less than 36 months, or is yet to commence Commercial Operation, and AEMO has cause to believe that over the first 36 months of Commercial Operation the Facility is likely to have a Forced Outage rate or a combined Planned Outage rate and Forced Outage rate greater than the applicable percentage specified in the table in clause 4.11.1D, where the Planned Outage rate and the Forced Outage rate for a Facility for a period are calculated in accordance with the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17;

...

...

Proposed clause 4.25.3A has been amended to remove the exclusion for a Facility that is subject to a Foreseeable Constraint.

- 4.25.3A. AEMO must not subject a Facility to a Reserve Capacity Test if:
- (a) that Facility is undergoing a Scheduled Outage or Opportunistic Maintenance which has been approved in accordance with section 3.19;
 - (b) the relevant Market Participant has advised AEMO of a Forced Outage or Consequential Outage for that Facility in accordance with clause 3.21.4; or
 - (c) that Facility is undergoing a Commissioning Test approved in accordance with section 3.21A; ~~or~~;
 - ~~(d) that Facility is subject to a Foreseeable Constraint.~~

...

Clauses 4.26.1A, 4.26.1C, 4.26.1D and 4.26.2 have been amended to reverse the proposed changes to the names of Refund Exempt Planned Outage and Refund Payable Planned Outage, to avoid any conflict with the Minister's Amending Rules.

- 4.26.1A. AEMO must calculate the Reserve Capacity Deficit refund for each Facility ("**Facility Reserve Capacity Deficit Refund**") for each Trading Interval t as the lesser of:
- (a) the product of:
 - i. the Trading Interval Refund Rate applicable to the Facility in Trading Interval t; and
 - ii. the Reserve Capacity Deficit in Trading Interval t,where the Reserve Capacity Deficit for a Facility is equal to whichever of the following applies, or to zero if none of the following apply:
 - 1. if the Capacity-Adjusted Forced Outage Quantity or Refund Payable Planned Outage ~~Quantity~~ for the Facility for Trading Interval t exceeds zero, the sum of the Capacity-Adjusted

Forced Outage Quantity and Refund Payable Planned Outage
~~Quantity~~ for the Facility for Trading Interval t;

...

...

...

4.26.1C. Where AEMO has recorded a Capacity-Adjusted Planned Outage Quantity for a Scheduled Generator for a Trading Interval in the schedule maintained under clause 7.13.1A(b), AEMO must determine that Capacity-Adjusted Planned Outage Quantity to be:

- (a) if the Refund Exempt Planned Outage Count for the Facility, calculated over the 1000 Trading Days preceding the Trading Day in which the Trading Interval falls, is less than 8400—a Refund Exempt Planned Outage ~~Quantity~~;
or
- (b) otherwise—a Refund Payable Planned Outage ~~Quantity~~.

4.26.1D. The Economic Regulation Authority, in consultation with AEMO, must undertake a review, to be completed by 31 December 2020 of whether the limit for the Refund Exempt Planned Outage Count referred to in clause 4.26.1C should be modified to better address the Wholesale Market Objectives. The review must include, at a minimum, an assessment ~~of—of:~~

- (a) variations in Planned Outage rates and Forced Outage rates of Scheduled Generators since the introduction of the limit on Refund Exempt Planned Outages ~~s Quantities~~;
- (b) for each Scheduled Generator and each year since the introduction of the limit on Refund Exempt Planned ~~Outages—Outage Quantities:~~
 - i. the number of Equivalent Planned Outage Hours for which Facility Reserve Capacity Deficit Refunds were payable; and
 - ii. the total amount of Facility Reserve Capacity Deficit Refunds associated with Refund Payable Planned Outages ~~s Quantities~~; and
- (c) the level of participation by Scheduled Generators in the Reserve Capacity Mechanism in each year since the introduction of the limit on Refund Exempt Planned Outages ~~s Quantities~~; and
- (d) changes in the mix of Scheduled Generators that have participated in the Reserve Capacity Mechanism in each year since the introduction of the limit on Refund Exempt Planned Outages ~~s Quantities~~.

...

4.26.2. AEMO must determine the net STEM shortfall (“Net STEM Shortfall”) in Reserve Capacity supplied by each Market Participant p holding Capacity Credits associated with a generation system in each Trading Interval t as:

$$SF(p,t) = \text{Max}(\text{RCDF}(p,t), \text{RCOQ}(p,t) - A(p,t)) - \text{RCDF}(p,t)$$

where:

$$A(p,t) = \text{Min}(\text{RCOQ}(p,t), \text{CAPA}(p,t));$$

RCOQ(p,t) for Market Participant p and Trading Interval t is equal to:

- (a) the total Reserve Capacity Obligation Quantity of Market Participant p's unregistered facilities that have Reserve Capacity Obligations, excluding Loads that can be interrupted on request; plus
- (b) the sum of the product of:
 - i. the factor described in clause 4.26.2B as it applies to Market Participant p's Registered Facilities; and
 - ii. the Reserve Capacity Obligation Quantity for each Facility, for all Market Participant p's Registered Facilities, excluding Demand Side Programmes,

CAPA(p,t) for Market Participant p and Trading Interval t is:

- (c) equal to RCOQ(p,t) for a Trading Interval where the STEM Auction has been suspended by AEMO in accordance with section 6.10;
- (d) subject to clause 4.26.2(c), the sum of:
 - i. the Reserve Capacity Obligation Quantities in Trading Interval t of that Market Participant's Interruptible Loads; plus
 - ii. the MW quantity calculated by doubling that Market Participant's Net Contract Position in MWh for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - iii. the MW quantity calculated by doubling the total MWh quantity covered by the STEM Offers which were not scheduled and the STEM Bids which were scheduled in the relevant STEM Auction, determined by AEMO for that Market Participant under section 6.9 for Trading Interval t, corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - iv. double the total MWh quantity to be provided as Ancillary Services as specified by AEMO in accordance with clause 6.3A.2(e)(i) for that Market Participant corrected for Loss Factor adjustments so as to be a sent out quantity in accordance with clause 4.26.2A; plus
 - v. the greater of zero and $(\text{BSFO}(p,t) - \text{RTFO}(p,t))$;

$$\text{RCDF}(p,t) = \text{RTFO}(p,t) + \text{RTNREPO}(p,t);$$

$$\text{RTNREPO}(p,t) = \sum_{f \in F} \left(\text{Max}(0, \text{NREPO}(f,t) - \text{BSPO}(f,t)) \right);$$

NREPO(f,t) is the Refund Payable Planned Outage ~~Quantity~~ associated with Facility f for Trading Interval t;

BSPO(f,t) is the Capacity-Adjusted Planned Outage Quantity associated with Facility f before the STEM Auction for Trading Interval t, as recorded in the schedule maintained under clause 7.3.4;

F is the set of Scheduled Generators registered to Market Participant p, and f is a Facility within that set;

BSFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage associated with Market Participant p before the STEM Auction for Trading Interval t, where this is the sum over all the Market Participant's Registered Facilities of the lesser of the Reserve Capacity Obligation Quantity of the Facility for Trading Interval t and the Capacity-Adjusted Forced Outage Quantity of the Facility for Trading Interval t as recorded in the schedule maintained under clause 7.3.4; and

RTFO(p,t) is the total capacity-adjusted MW quantity of Forced Outage associated with Market Participant p in real-time for Trading Interval t, where this is the sum over all the Market Participant's Registered Facilities of the lesser of the Reserve Capacity Obligation Quantity of the Facility for Trading Interval t and the Capacity-Adjusted Forced Outage Quantity of the Facility for Trading Interval t as recorded in the schedule maintained under clause 7.13.1A(b).

...

Proposed clause 6.15.2 has been amended to reverse the proposed name change from "Available Capacity" to "TES Available Capacity".

6.15.2. The Minimum Theoretical Energy Schedule in a Trading Interval equals:

- (a) for a Balancing Facility which is a Scheduled Generator, the amount which is the lesser of:
 - i. the sum of:
 - ...
 - ii. where the Balancing Facility is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the ~~TES~~ Available Capacity for that Trading Interval;
- (b) for a Balancing Facility which is a Non-Scheduled Generator:
 - ...
- (c) for the Balancing Portfolio, the amount which is the lesser of:
 - i. the sum of:
 - ...

- ii. where a Facility in the Balancing Portfolio is subject to an Outage, the maximum amount of sent out energy, in MWh, which could have been dispatched given the sum of the ~~TES~~ Available Capacities of Facilities in the Balancing Portfolio for that Trading Interval.

6.15.3 AEMO must:

- (a) calculate Maximum Theoretical Energy Schedules under clause 6.15.1 and Minimum Theoretical Energy Schedules under clause 6.15.2:
 - i. using Sent Out Metered Schedules determined using SCADA data and output estimates maintained in accordance with clause 7.13.1(cA), notwithstanding any requirement in clause 9.3.4 to use Meter Data Submissions received by AEMO; and
 - ii. as soon as practicable using applicable SCADA data maintained under clause 7.13.1(cA); and
- (b) update Maximum Theoretical Energy Schedules and Minimum Theoretical Energy Schedules calculated under clause 6.15.3(a) as soon as practicable using the schedule of Capacity-Adjusted Forced Outage Quantities, Capacity-Adjusted Planned Outage Quantities and Capacity-Adjusted Consequential Outage Quantities maintained under clause 7.13.1A(b).

...

Proposed clause 6.16A.2 has been amended to reverse the proposed change to set Downwards Out of Merit Generation to zero if the Balancing Facility is a Scheduled Generator that was subject to a Forced Outage or Consequential Outage in the Trading Interval.

6.16A.2. The Downwards Out of Merit Generation in a Trading Interval for a Balancing Facility equals:

- (a) subject to clause 6.16A.2(b), the Minimum Theoretical Energy Schedule less the Sent Out Metered Schedule; or
- (b) zero if:
 - i. the Economic Regulation Authority has notified AEMO under clause 7.10.8 that the relevant Market Participant has not adequately or appropriately complied with a Dispatch Instruction in respect of the Facility;
 - ii. the Facility was undergoing a Test or complying with an Operating Instruction;
 - iii. the Minimum Theoretical Energy Schedule less the Sent Out Metered Schedule is less than the sum of:
 - 1. any Downwards LFAS Enablement and, if the Facility is a Stand Alone Facility, any Backup Downwards LFAS Enablement, which the Facility was instructed by AEMO to provide, divided by two so that it is expressed in MWh; and

- 2. the applicable Settlement Tolerance; or
- iv. the Balancing Facility is a Non-Scheduled Generator and AEMO has not determined a MWh quantity for the Facility and the Trading Interval under clause 7.13.1(eF); ~~or~~
- ~~v. the Balancing Facility is a Scheduled Generator that was subject to a Forced Outage or Consequential Outage in the Trading Interval.~~

...

Proposed clause 6.17.4 has been amended to reverse the proposed name change from “Available Capacity” to “TES Available Capacity”.

6.17.4. Subject to clauses 6.17.5B and 6.17.5C, AEMO must attribute any Downwards Out of Merit Generation from a Balancing Facility that is a Scheduled Generator, in a Trading Interval, as follows:

- (a) Constrained Off Quantity¹ (CoffQ1) equals the lesser of:
 - i. the maximum energy less the minimum energy, if any, in MWh, which could have been dispatched down from the Facility’s Balancing Price-Quantity Pair N, with a Loss Factor Adjusted Price (Price N), taking into account the ~~TES~~ Available Capacity and actual SOI Quantity of the Balancing Facility and the applicable Ramp Rate Limit, where N is determined from either of the following Balancing Price-Quantity Pairs or, if different, the one with the lower price:
 - 1. the Balancing Price-Quantity Pair associated with the intersection of ~~TES~~ Available Capacity and the quantities in all Balancing Price-Quantity Pairs summed in order of lowest to highest price; and
 - 2. the Balancing Price-Quantity Pair with a Loss Factor Adjusted Price lower than but closest to the Balancing Price; and
 - ii. the Downwards Out of Merit Generation for the Balancing Facility;

...

...

Proposed clause 6.17.5A has been amended to reverse the proposed name change from “Available Capacity” to “TES Available Capacity”.

6.17.5A. Subject to clause 6.17.5C, AEMO must attribute any Downwards Out of Merit Generation from the Balancing Portfolio in a Trading Interval as follows:

- (a) Portfolio Constrained Off Quantity¹ (PCoffQ1) equals the lesser of:
 - i. the maximum energy less the minimum energy, if any, in MWh, which could have been dispatched down from the Balancing Portfolio’s

Balancing Price-Quantity Pair N, with Price N, taking into account the sum of the ~~TES~~ Available Capacities of the Facilities in the Balancing Portfolio, the MW level at the start of the Trading Interval and the Portfolio Ramp Rate Limit, where N is determined from either of the following Balancing Price-Quantity Pairs or, if different, the one with the lower price:

1. the Balancing Price-Quantity Pair associated with the intersection of sum of the ~~TES~~ Available Capacities and the quantities in all Balancing Price-Quantity Pairs summed in order of lowest to highest price; and
 2. the Balancing Price-Quantity Pair with a price lower than but closest to the Balancing Price; and
- ii. the Portfolio Downwards Out of Merit Generation;

...

...

Proposed clause 6.17.9 has been amended to clarify its meaning.

6.17.9. AEMO must, other than for Facilities in the Balancing Portfolio, determine a Settlement Tolerance for each Scheduled Generator and Non-Scheduled Generator, where this Settlement Tolerance is equal to:

- (a) for a Scheduled Generator for which an applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the applicable value determined by AEMO under clause 2.13.6D, divided by two to be expressed as MWh; or
- (b) for Facilities for which no applicable Tolerance Range or Facility Tolerance Range has been determined by AEMO, the lesser of:
 - i. 3 MWh; and
 - ii. the greater of:
 1. 0.5 MWh; and
 2. 3% of the ~~Facility's~~ Balancing Facility Maximum Capacity for the Balancing Facility divided by two to be expressed as MWh.

...

Proposed clause 7.1.1 has been amended to remove the reference to Foreseeable Constraints.

7.1.1. AEMO must maintain and, in accordance with section 7.6, use the following data set when issuing Dispatch Instructions to Demand Side Programmes, when issuing

Dispatch Instructions to Balancing Facilities dispatched Out of Merit, and when providing Operating Instructions:

...

(j) ~~details of Foreseeable Constraints;~~[Blank]

...

...

Proposed clauses 7.3.4 and 7.3.5 have been amended to restrict the schedules to outages of Scheduled Generators.

7.3.4. AEMO must prepare a schedule of Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for each ~~Non-Intermittent~~ Scheduled Generator of which AEMO is aware at that time, for each Trading Interval of a Trading Day, between 8:00 AM and 8:30 AM on the Scheduling Day prior to the Trading Day.

7.3.5. When preparing a schedule under clause 7.3.4, AEMO must assume that the maximum daily ambient site temperature at the site of each ~~Non-Intermittent~~ Scheduled Generator will not exceed 41 degrees Celsius during the relevant Trading Day.

...

Proposed clauses 7.6.1C and 7.6.1D have been amended, and proposed clauses 7.6.1I to 7.6.1K deleted, to reverse the proposed changes to manage the dispatch of Non-Scheduled Generators affected by Foreseeable Constraints.

7.6.1C. In seeking to meet the Dispatch Criteria AEMO must, subject to clauses ~~7.6.1D and 7.6.1I,~~ issue Dispatch Instructions in the following descending order of priority:

...

7.6.1D. AEMO may only issue Dispatch Instructions under:

- (a) clause 7.6.1C(b) in priority to clause 7.6.1C(a);
- (b) clause 7.6.1C(c) in priority to clause 7.6.1C(b);
- (c) clause 7.6.1C(d) in priority to clause 7.6.1C(c); and
- (cA) clause 7.6.1C(e) in priority to clause 7.6.1C(d),

where AEMO considers, on reasonable grounds, that it needs to do so in order to:

- (d) ensure a High Risk Operating State or an Emergency Operating State is avoided; or
- (e) if the SWIS is in a High Risk Operating State or an Emergency Operating State, enable the SWIS to be returned to a Normal Operating State; ~~or~~

~~(f) — comply with its obligations under clause 7.6.1I.~~

...

~~7.6.1I. — If a Balancing Facility that is a Non-Scheduled Generator is subject to a Foreseeable Constraint, then for each contiguous period within the period of the Foreseeable Constraint in which the relevant capacity of the Balancing Facility is not subject to an approved Planned Outage (“**applicable period**”), subject to clause 7.6.1K, AEMO must:~~

~~(a) — issue one or more Dispatch Instructions to the Balancing Facility, which must not impose any unnecessary restriction on the sent out generation of the Balancing Facility, to restrict its MW output level by the start of the applicable period to the MW limit specified for the Foreseeable Constraint in the relevant Triggering Outage Notice;~~

~~(b) — not issue a Dispatch Instruction or Operating Instruction to the Balancing Facility for a Trading Interval in the applicable period that specifies a MW target output level greater than the MW limit specified for the Foreseeable Constraint in the relevant Triggering Outage Notice.~~

~~7.6.1J. — A Dispatch Instruction issued under clause 7.6.1I(a) is deemed to meet the criterion in clause 7.7.11(a).~~

~~7.6.1K. — AEMO is not required to comply with clauses 7.6.1I(a) or 7.6.1I(b) if AEMO reasonably considers that such compliance would threaten Power System Security or Power System Reliability.~~

...

Proposed clause 7.13.1A(b) has been amended to restrict the schedules to outages of Scheduled Generators.

7.13.1A. AEMO must record the following data for a Trading Day by noon on the fifteenth Business Day following the day on which the Trading Day ends:

- (a) the MWh quantity of non-compliance by Synergy by Trading Interval; and
- (b) the schedule of all Capacity-Adjusted Planned Outage Quantities, Capacity-Adjusted Forced Outage Quantities and Capacity-Adjusted Consequential Outage Quantities for ~~Non-Intermittent~~ Scheduled Generators relating to each Trading Interval in the Trading Day by Market Participant and Facility.

...

Proposed clause 7.13.1E(b) has been amended to replace the dash in the clause range with “to”.

7.13.1E The information required to be recorded by AEMO under clause 7.13.1D must include:

- (a) whether the request is for a Scheduled Outage or Opportunistic Maintenance;
- (b) the information provided under clauses 3.18.6(a)—to 3.18.6(g);
- (c) the time and date when:
 - i. the Outage Plan or request for Opportunistic Maintenance was received by AEMO; and
 - ii. any amendment to the outage status occurred.

...

Proposed clause 7.13.1G has been amended to:

- replace the dash in the clause range in clause 7.13.1G(b) with “to”
- update the clause references relating to Consequential Outages.

7.13.1G. The information required to be recorded by AEMO under clause 7.13.1F must include:

- (a) whether the outage is considered to be a Forced Outage or Consequential Outage;
- (b) for a Forced Outage, the information specified in clauses 3.21.4A(a)—to 3.21.4A(e) that is provided by the relevant Market Participant or Network Operator;
- (c) for a Consequential Outage, the information specified in clauses ~~3.21.12(a)–3.21.12(e)~~ 3.21.11(a) to 3.21.11(e) that is provided by the relevant Market Participant or Network Operator; and
- (d) the time and date when:
 - i. the Forced Outage was first notified to AEMO;
 - ii. the outage status was amended by AEMO; and
 - iii. AEMO recorded in AEMO’s outage management system that a Consequential Outage occurred as approved under clause ~~3.21.15(a)~~ 3.21.14(a).

...

Proposed clause 7A.2.4B has been amended to remove the exception relating to Foreseeable Constraints.

7A.2.4B. A Balancing Submission for a Balancing Facility that is a Non-Scheduled Generator must specify, for each Trading Interval covered in the Balancing Submission, a single Balancing Price-Quantity Pair with a MW quantity equal to the Market Participant’s best estimate of the Facility’s output at the end of the Trading Interval (based on an assumption, for the purposes of this clause 7A.2.4B, that the Facility

will not be subject to a Dispatch Instruction that limits its output during that Trading Interval ~~except where the Dispatch Instruction is issued in relation to a Foreseeable Constraint in accordance with clause 7.6.11).~~

...

Proposed clauses 7A.2.8A and 7A.2.8B have been amended to clarify their meaning and remove the conditions relating to Foreseeable Constraints.

7A.2.8A. A Market Participant must, for each of its Balancing Facilities that is a Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility's capacity that is:

- (a) subject to an approved Planned Outage; or
- (b) subject to an outstanding request for approval of Opportunistic Maintenance; ~~or~~
- ~~(c) reasonably expected to be unable to be dispatched by AEMO because of a Foreseeable Constraint,~~

is declared as unavailable in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

7A.2.8B. A Market Participant must, for each of its Balancing Facilities that is a Non-Scheduled Generator, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times, any of the Balancing Facility's capacity that is:

- (a) subject to an approved Planned Outage; or
- (b) subject to an outstanding request for approval of Opportunistic Maintenance; ~~or~~
- ~~(c) reasonably expected to be unable to be dispatched by AEMO because of a Foreseeable Constraint,~~

is excluded from the estimated MW quantity in the Balancing Submission for the Balancing Facility and the Trading Interval, unless the Balancing Facility is expected to generate in accordance with an approved Commissioning Test in that Trading Interval.

...

Proposed clause 7A.2.9A has been amended to remove the condition relating to Foreseeable Constraints.

7A.2.9A. Synergy must, to the extent it is able to update its Balancing Submissions subject to clauses 7A.2.9(d) to 7A.2.9(g) (as applicable), for each Scheduled Generator in the

Balancing Portfolio, and for each Trading Interval in the Balancing Horizon, use its best endeavours to ensure that, at all times:

- (a) any of the Scheduled Generator's capacity that is subject to an approved Planned Outage ~~or reasonably expected to be unable to be dispatched by AEMO because of a Foreseeable Constraint~~ is declared as unavailable in the Balancing Submission for the Balancing Portfolio and that Trading Interval, except where that Scheduled Generator is expected to generate in accordance with an approved Commissioning Test; and
- (b) any of the Scheduled Generator's capacity that is subject to an outstanding request for approval of Opportunistic Maintenance is declared as available in the Balancing Submission for the Balancing Portfolio and that Trading Interval.

...

Proposed clause 7A.2A.1 has been amended to:

- update the WEM Procedure clause reference; and
- remove the provisions relating to Foreseeable Constraints.

7A.2A.1. Subject to clauses 7A.2A.3, and 7A.2A.4 ~~and 7A.2A.5~~, a Market Participant (other than Synergy in respect of the Balancing Portfolio) must, as soon as practicable after each Trading Interval, for each of its Balancing Facilities that is an Outage Facility, ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which the Market Participant holds Capacity Credits that:

- (a) was declared unavailable in the Facility's Balancing Submission for that Trading Interval; and
- (b) was not: subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval,
 - i. ~~subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval; or~~
 - ii. ~~reasonably expected to be unable to be dispatched by AEMO in that Trading Interval because of a Foreseeable Constraint,~~

unless the relevant capacity was declared unavailable in the Facility's Balancing Submission because the Market Participant reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

Proposed clause 7A.2A.2 has been amended to:

- update the WEM Procedure clause reference; and

- remove the provisions relating to Foreseeable Constraints.

7A.2A.2. Subject to clauses 7A.2A.3, and 7A.2A.4 ~~and 7A.2A.5~~, Synergy must, as soon as practicable after each Trading Interval, for each Facility in the Balancing Portfolio that is an Outage Facility, ensure that it has notified AEMO, in the manner prescribed in the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17, of a Forced Outage or Consequential Outage that relates to any capacity for which Synergy holds Capacity Credits that:

- (a) was declared unavailable in the Balancing Portfolio's Balancing Submission for that Trading Interval; and
- (b) was not subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval;
 - ~~i. subject to an approved Planned Outage, Consequential Outage or Commissioning Test Plan in that Trading Interval; or~~
 - ~~ii. reasonably expected to be unable to be dispatched by AEMO in that Trading Interval because of a Foreseeable Constraint,~~

unless the relevant capacity was declared unavailable in the Balancing Portfolio's Balancing Submission because Synergy reasonably expected that its Reserve Capacity Obligations for the Trading Interval would be reduced because the maximum site temperature for the applicable Trading Day would exceed 41 degrees Celsius.

...

Proposed clause 7A.2A.5, which provides for exceptions relating to Foreseeable Constraints, has been deleted.

~~7A.2A.5. Clauses 7A.2A.1 and 7A.2A.2 do not apply in respect of a Trading Interval if:~~

- ~~(a) the Market Participant previously expected that the relevant capacity would be unable to be dispatched by AEMO in the Trading Interval because of a Foreseeable Constraint; and~~
- ~~(b) AEMO issued a Triggering Outage Notice that removed the basis for the Market Participant's expectation that the relevant capacity would be unable to be dispatched by AEMO in the Trading Interval because of the Foreseeable Constraint:~~
 - ~~i. less than 30 minutes before:~~
 - ~~1. Balancing Gate Closure for the Trading Interval, for a Facility that is not in the Balancing Portfolio; or~~
 - ~~2. the time specified in clause 7A.2.9(d) for the Trading Interval, for a Facility in the Balancing Portfolio; or~~

- ii. ~~at a time when the Facility was not synchronised and could not be synchronised by the start of the Trading Interval given the Facility's relevant Equipment Limits.~~

...

Proposed clause 10.5.1(k) has been amended to remove the reference to Triggering Outage Notices.

10.5.1. AEMO must set the class of confidentiality status for the following information under clause 10.2.1 as Public and AEMO must make each item of information available from or via the WEM Website after that item of information becomes available to AEMO:

...

- (k) any Market Advisories, ~~and~~ Dispatch Advisories ~~and Triggering Outage Notices~~ released in the previous 12 months;

...

...

11. Glossary

...

The proposed name change from Available Capacity to TES Available Capacity has been reversed.

Available Capacity: For a Trading Interval:

- (a) for a Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(b)(iii)) minus the sum of the Capacity-Adjusted Forced Outage Quantity, Capacity-Adjusted Planned Outage Quantity and Capacity-Adjusted Consequential Outage Quantity for the Facility in the Trading Interval; and
- (b) for a Non-Scheduled Generator, the sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(e)(iiiA)).

...

The proposed defined terms Capacity-Adjusted Consequential Outage Quantity, Capacity-Adjusted Forced Outage Quantity and Capacity-Adjusted Planned Outage Quantity have been amended to restrict the definitions to Scheduled Generators.

Capacity-Adjusted Consequential Outage Quantity: For a ~~Non-Intermittent Scheduled~~ Generator for a Trading Interval, the total MW capacity of the ~~Non-Intermittent Scheduled~~

Generator for which Capacity Credits are assigned that is subject to an approved Consequential Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(c).

Capacity-Adjusted Forced Outage Quantity: For a ~~Non-Intermittent Scheduled~~ Generator for a Trading Interval, the total MW capacity of the ~~Non-Intermittent Scheduled~~ Generator for which Capacity Credits are assigned that is subject to a Forced Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(a).

Capacity-Adjusted Planned Outage Quantity: For a ~~Non-Intermittent Scheduled~~ Generator for a Trading Interval, the total MW capacity of the ~~Non-Intermittent Scheduled~~ Generator for which Capacity Credits are assigned that is subject to an approved Planned Outage for the Trading Interval, calculated in accordance with the formula in clause 3.21.6(b).

...

The proposed defined term Effective Capacity has been deleted.

~~**Effective Capacity:** For a Scheduled Generator or Non-Scheduled Generator for a Trading Interval, that part of the maximum sent out capacity of the Facility specified under Appendix 1(b)(iii) or Appendix 1(e)(iiiA) (as applicable) that is not:~~

- ~~(a) — physically prevented from being used by AEMO to provide sent out generation because of an outage of an item of equipment that is part of a Network; or~~
- ~~(b) — prevented from being used by AEMO to provide sent out generation by network or security constraints that are the result of an outage of an item of equipment that is part of a Network.~~

...

The definition of Equivalent Planned Outage Hours has been amended to update the WEM Procedure clause reference.

Equivalent Planned Outage Hours: In respect of a Facility, the sum of the “Planned Outage Hours” and the “Equivalent Planned Derated Hours” for the Facility as calculated in accordance with the WEM Procedure specified in clause ~~3.21.18~~ 3.21.17.

...

The proposed changes to the definition of External Constraint to include Foreseeable Constraints have been reversed.

External Constraint: Means an event impacting the operation of the whole of the SWIS, or any significant part of it.

- ~~(a) — an event impacting the operation of the whole of the SWIS, or any significant part of it; or~~

~~(b) — a Foreseeable Constraint.~~

...

The proposed defined term Foreseeable Constraint has been deleted.

~~**Foreseeable Constraint:** An expected reduction in the Effective Capacity of a Scheduled Generator or Non-Scheduled Generator to a specific MW level for a specific period because of a Triggering Outage, that is specified in a Triggering Outage Notice.~~

...

The proposed defined term Non-Intermittent Generator has been deleted.

~~**Non-Intermittent Generator:**~~

~~(a) — a Scheduled Generator; or~~

~~(b) — a Non-Scheduled Generator that is not an Intermittent Generator.~~

...

The proposed changes to the names of Refund Exempt Planned Outage and Refund Payable Planned Outage have been reversed to avoid any conflict with the Minister's Amending Rules.

Refund Exempt Planned Outage Quantity: A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is not payable, as determined by AEMO under clause 4.26.1C.

Refund Exempt Planned Outage Count: In respect of a Scheduled Generator and a period of time, the sum over all Trading Intervals in that period of:

- (a) zero, if the Trading Interval occurs before 8:00 AM on 1 June 2016 or if no Capacity Credits were associated with the Facility in the Trading Interval; or
- (b) the Refund Exempt Planned Outage ~~Quantity~~ for the Facility in the Trading Interval, divided by the number of Capacity Credits associated with the Facility in the Trading Interval.

Refund Payable Planned Outage Quantity: A Capacity-Adjusted Planned Outage Quantity of a Scheduled Generator for which a Facility Reserve Capacity Deficit Refund is payable, as determined by AEMO under clause 4.26.1C.

...

The definition of Scheduled Outage has been amended to clarify the meaning of the term.

Scheduled Outage: ~~Means an An~~ outage that has an Outage Plan that is included in AEMO's outage schedule. A Scheduled Outage does not cease to be a Scheduled Outage if it is approved by AEMO and becomes a Planned Outage.

...

The proposed name change from Available Capacity to TES Available Capacity has been reversed.

~~**TES Available Capacity:** For a Trading Interval:~~

- ~~(a) — for a Scheduled Generator, the maximum sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(b)(iii)) minus the sum of the Capacity-Adjusted Forced Outage Quantity, Capacity-Adjusted Planned Outage Quantity and Capacity-Adjusted Consequential Outage Quantity for the Facility in the Trading Interval; and~~
- ~~(b) — for a Non-Scheduled Generator, the maximum sent out capacity of the Facility in the Trading Interval (as specified under Appendix 1(e)(iiiA)).~~

...

The proposed defined terms Triggering Outage and Triggering Outage Notice have been deleted.

~~**Triggering Outage:** An outage of Network equipment that AEMO considers will (if it proceeds) reduce the Effective Capacity of a Scheduled Generator or Non-Scheduled Generator to a specific quantity for a specific period.~~

~~**Triggering Outage Notice:** A communication issued by System Management to Market Participants and Network Operators in accordance with clauses 3.20A.2 or 3.20A.3 to provide information specified in clause 3.20A.1 about the expected impact of a Triggering Outage on a Scheduled Generator or Non-Scheduled Generator.~~

...

The proposed changes to Appendix 1(b)(iii) and Appendix 1(e)(iiiA) have been removed.

Appendix 1: Standing Data

...

- (a) [Blank]
- (b) for a Scheduled Generator:
 - i. evidence that the communication and control systems required by section 2.35 are in place and operational;
 - ii. the nameplate capacity of the generator, expressed in MW;
 - iiA. the minimum load at the connection point of the generator that will automatically trip off if the generator fails, expressed in MW;

- iii. ~~the maximum MW quantity that can be sent out by the Facility on a sustainable basis under optimal conditions, taking into account the physical limits of the network connection~~ the sent out capacity of the generator, expressed in MW;

...

...

(e) for a Non-Scheduled Generator:

- i. evidence that the communication and control systems required by section 2.35 are in place and operational;
- ii. the nameplate capacity of the generator, expressed in MW;
- iiA. the minimum load at the connection point of the generator that will automatically trip off if the generator fails, expressed in MW;
- iii. the ramp down rates;
- iiiA. ~~the maximum MW quantity that can be sent out by the Facility on a sustainable basis under optimal conditions, taking into account the physical limits of the network connection~~ the sent out capacity of the generator, expressed in MW;

...

...

...

Appendix C. Email Sent to AEMO and Synergy on 3 February 2021 – Final Rule Change Report Assumptions

Good afternoon,

As discussed at the 2 February 2021 MAC meeting, RCP Support is working on the Final Rule Change Report for Rule Change Proposal: Administrative Improvements to the Outage Process (RC_2014_03). We note that the submissions received on the Draft Rule Change Report and recent statements by AEMO about its implementation of the Energy Transformation Strategy (ETS) reforms have modified our assessment of the proposed Amending Rules, and we are seeking to ensure that the final Amending Rules do not create any unwarranted costs or ETS implementation risks.

RCP Support has sought advice from AEMO to assist it with the preparation of the Final Rule Change Report. AEMO provided some information on 29 January 2021 but the information provided was incomplete and unclear in several respects. RCP Support requested further clarification from AEMO on 1 February 2021 and met with AEMO today, but AEMO has not yet provided the requested clarifications or an ETA for their provision.

To avoid further delays to the publication of the Final Rule Change Report, RCP Support intends to develop the Final Rule Change Report using the assumptions listed below, unless it is advised by AEMO (or Synergy, for the assumptions directly affecting it) that they are incorrect (and why) by COB on Friday 5 February 2021.

Please note that this email has been sent to other MAC members and observers for information only. However, if you have any questions or concerns about the assumptions please feel free to contact me by phone or email.

Thanks
Jenny

Assumptions:

- The information previously provided by AEMO to RCP Support about how SMMITS records unadjusted outage quantities and calculates capacity-adjusted outage quantities is correct. Specifically, for Scheduled Generators:
 - The Coefficient 1 parameter used in SMMITS is provided by the Market Participant to AEMO. Currently:
 - Coefficient 1 is set to 1 for all IPP Scheduled Generators; and
 - some of Synergy's Scheduled Generators (mainly larger ones) have Coefficient 1 values that are less than 1, and the remainder have a Coefficient 1 value of 1.
 - The Coefficient 2 parameter is set by AEMO to AG41/AG15, where AG41 and AG15 are the maximum capacities of the Scheduled Generator, at 41 degrees and 15 degrees respectively, as found in the Standing Data file for temperature dependence provided under Appendix 1(b)(iv) on an as generated basis.
 - The Coefficient 1 and 2 parameters are manually entered by AEMO into SMMITS.
 - Market Participants enter an outage quantity as a de-rating from what SMMITS considers to be the maximum 'as generated' capacity of the Scheduled Generator at 15 degrees. SMMITS calculates this maximum value as SOC / Coefficient 1, where

SOC is the sent out capacity of the Scheduled Generator provided under Appendix 1(b)(iii).

- o IPPs do not really enter outage quantities on an as generated basis, as their Coefficient 1 values are all set to 1, regardless of their auxiliary loads. Further, there is no need or obligation for them to do so.
- o SMMITS stores the 'as generated' 15 degree outage value entered by a Market Participant (OUTAGE.OUTAGE_MW) as well as what it assumes to be an equivalent sent out 15 degree outage value (OUTAGE.SENT_OUT_MW). OUTAGE.SENT_OUT_MW is calculated as $OUTAGE_MW * Coefficient\ 1$. This means that the maximum OUTAGE.SENT_OUT_MW value is $(SOC / Coefficient\ 1) * Coefficient\ 1 = SOC$.
- o The outage quantities provided in the real-time outage files published on the WEM Website are OUTAGE.SENT_OUT_MW values.
- o For the capacity-adjusted outage quantities determined under clause 3.21.6 for use in the schedules in clauses 7.3.4 and 7.13.1A(b), the SMMITS calculations assume that:
 - the 'maximum capacity of the Facility' referred to in clauses 3.21.5, 3.21.6(b)(ii), 3.21.6(c)(ii)(2), 3.21.6(d)(ii)(2) and 3.21.6(f) is $SOC * Coefficient\ 2$;
 - the Reserve Capacity Obligation Quantity referred to in clauses 3.21.6(b), 3.21.6(c) and 3.21.6(d) is the number of Capacity Credits held by the Scheduled Generator.

For example, the capacity-adjusted forced outage quantity (clause 3.21.6(b)) is calculated as

$$\text{Max}(0, \text{sum}(\text{OUTAGE.SENT_OUT_MW} * \text{Coefficient } 2) - (\text{SOC} * \text{Coefficient } 2 - \text{Capacity Credits}))$$

- o AEMO has processes in place to set capacity-adjusted outage quantities to zero for Non-Scheduled Generator outages.
- o AEMO has processes in place to set capacity-adjusted outage quantities to zero for Scheduled Generators during periods when they are subject to an approved Commissioning Test.
- Synergy's SOC values recorded in its Standing Data under Appendix 1(b)(iii) are sent out values, not as generated values. There is no reason why Synergy should need to replace these values with as generated values in future.
- The WEM Registration Technical Guide, which requires Appendix 1(b)(iii) values to be 'generated' values for Verve facilities (see pages 20 and 21 of https://www.aemo.com.au/-/media/files/electricity/wem/participant_information/guides-and-useful-information/4-aemo-wem-registration-technical-guide.pdf?la=en), is therefore misleading and should be amended, as there is no reason to require Synergy to record generated values under Appendix 1(b)(iii).
- The Appendix 1(b)(iii) values provided for Synergy's Scheduled Generators are usually equal to $AG15 * Coefficient\ 1$. The values are also very close to (albeit not always exactly the same as) the corresponding 15 degree maximum sent out capacity values used by AEMO for Reserve Capacity Testing.
- The Appendix 1(b)(iii) values recorded in Standing Data for IPP Scheduled Generators are not always equal to the maximum sent out capacity of the Scheduled Generator at

15 degrees, and can be larger or smaller. That these values are not all provided on a 15 degree basis does not appear to be having any material impact on AEMO's operations or on power system security and reliability.

- The Coefficient 2 ratio (AG41/AG15) is often, but not always, a good approximation of the ratio of maximum sent out capacity at 41 degrees over SOC.
- If the Rule Change Proposal was rejected, AEMO would not update its IT systems to temperature-adjust capacity-adjusted outage quantities for high-temperature days before the start of the new market arrangements.
- AEMO may not be in a position to provide an updated quote within the next few days for the proposed change to remove constrained off compensation for Scheduled Generators that suffer a Forced Outage or Consequential Outage, so the Panel will need to assess that proposed change based on a conservative cost estimate derived from previous cost information provided by AEMO.